

Inside Dope

By GEORGE
F. TAUBENECK



Learn to live and laugh —
thus delay your epitaph

Stories of the Week
Gags of the Week
Philosophy of the Week
For Sure, Deep Down

Stories of the Week

Fond Father approached former President Stoddard (of the University of Illinois) with a proposition.

"My boy," he said, "doesn't want to waste too much time in college. Can you arrange a short-cut course for him?"

"Possibly," frowned Prexy Stoddard. "However, you should remember that it takes many years to grow a sturdy oak tree, although we can produce fine pumpkins in three months."

Time after time an auto mechanic was called to a suburban home to help a woman start her vintage car.

And, on each occasion, he found nothing wrong with the sturdy old motor. He could get it going easily.

With a flash of inspiration he ordered the suburbanite to start the Buick herself. She did—drove it half a block—then pulled out the choke, and hung her purse on it.

"Sorry to hear your daddy has been ill. When will he be able to work again?"

"Mama says it may be a long time, on accounta compensation has set in."

Gags of the Week

It's a great life if you weaken in time to enjoy it.

"A wise woman makes her husband think he's head of the house when he's only chairman of the entertainment committee."—*American Horologist & Jeweler.*

Called up before his draft board, a young married man brought along his wife—to prove that he had poor vision.

"Weak coffee probably has caused more divorces than strong drink."—*Grit.*

"When your ship comes in, the Government sees that it is docked."—*Irish Digest.*

News item from California reveals that a baby daughter out there has four grandparents and four great-grandmothers.

Lucky girl! She's a cinch to escape the dismal fate of scientific rearing.

(Concluded on Page 8, Col. 5)

Room Unit Can Be Brunner Offers Counted a Medical New 1, 5-Year Cost—Tax Ruling Warranty Plan

WASHINGTON, D. C.—The Internal Revenue Service recently ruled that under certain circumstances, the cost of buying and operating a room air conditioner, less any resale or salvage value, is deductible as a medical expense for Federal income tax purposes.

However, an Internal Revenue official indicated that each case must be treated individually and that a taxpayer wishing to claim such a deduction must set forth all the facts in his case.

The IRS ruling is contained in Internal Revenue Bulletin No. 18, 1955. It states:

"Air Conditioning Device: Inquiries have been made as to the deductibility of the cost of an air conditioning device which
(Concluded on Page 29, Col. 1)

Husmann Says It Has New Dairy Case On Trial—Period

ST. LOUIS—One manufacturer of commercial refrigerator display equipment took official note of the rumor stories that have appeared about revolutionary designs in open-type display cases—but the company's statement didn't reveal too much.

An official statement issued by Husmann Refrigeration, Inc. here last week declared:

"Several statements relative to a new type refrigerator display case designed by Husmann have appeared as news items in various publications of recent date. Some of these items have been misleading. The facts are:

"Husmann does have a new type dairy case at field trial stage. This case is designed to increase display capacity per lineal foot over cases now in use.

"If field tests prove satisfactory, volume production will start about Jan. 1, 1956."

Under 50 Booths Left for Biggest Industry Show

WASHINGTON, D. C.—The 9th Exposition of the Air-Conditioning and Refrigeration Industry, to be held in Atlantic City Nov. 28 through Dec. 1, will be the largest in the history of the event, according to F. G. Coggin, show chairman.

Present indications are that the exposition will be one-third larger than the last show in Cleveland in 1953, it was stated.

The Air-Conditioning & Re-
(Concluded on Page 4, Col. 3)

GAINESVILLE, Ga.—A new one and five-year warranty program keyed to a network of 157 refrigeration wholesalers throughout the United States was launched recently by the Brunner Co.

The new warranty program offers a standard one-year replacement service on Brunner-Metic condensing units and an optional five-year protection policy on the Brunner-Metic motor compressor and its internal parts only.

Features of the program include a nationwide system of parts depots, payment of freight both ways between wholesaler and Gainesville by Brunner, a "fair working profit" on replacement transactions for the wholesaler, a system of compressor exchange prices for dealers, and faster, cheaper service for equipment owners, Brunner officials declare.

Key to the program is the wholesaler, according to Frank C. Hawk, vice president in charge of sales for Brunner. So far, 157 refrigeration parts and supplies wholesalers in 134 cities have signed up with Brunner to act as fully equipped parts depots, he said.

The wholesaler is obligated to carry an adequate minimum stock that represents a substantial investment, he commented. This stock gives assurance to
(Concluded on Page 31, Col. 1)

York Corp. Records Its Best Quarter In Firm's History

YORK, Pa. — York Corp. President Stewart E. Lauer has announced substantial improvement in the trend of sales and earnings as reflected in results for the third fiscal quarter ended June 30, 1955.

During this period, sales amounted to \$29,778,000 and net earnings after taxes \$1,492,000, equivalent to \$1.14 per common share after provision for preferred dividends.

This is the best single quarter results, both as to sales and earnings, in the history of the company. It compares with sales in the same period in 1954 of \$29,728,000 and net after taxes of \$1,262,000, equivalent to 96 cents per common share after preferred dividends.

Lauer said the improvement resulted both from increased sales of packaged products through the Commercial Div. of the company and through contracts for heavier equipment sales covering central station air conditioning systems and large refrigeration systems, handled by the company's Industrial Div.

The latter division has shown
(Concluded on Page 29, Col. 1)

New RCA-Whirlpool Line To Appear Following Merger

ASRE Adopts Ad Policy On Standards

NEW YORK CITY — The American Society of Refrigerating Engineers has adopted a policy on industrial advertising as related to ASRE Standards.

ASRE Standards are established to assist the members of the refrigeration industry and the public by offering a uniform method of rating and testing refrigeration equipment, by suggesting safe practices in designing and installing such equipment, by providing proper definitions of this equipment, and by providing other information which may serve to guide the industry.

In referring to this standard and in marking of equipment and in advertising, no claim shall be made, either stated or implied, that the product has been approved by ASRE.

The following form of statement should be used:

"A representative product sample of the model has been (rated) (tested) in accordance with ASRE Standard No."

In the preparation and adoption of standards for use by the industry, the ASRE Standards Committee selects, develops and prepares codes, recommended
(Concluded on Page 2, Col. 5)

Seek Wider Charges In Ice Cream FTC Cases

CLEVELAND—The Refrigeration and Air Conditioning Contractors Association has asked the Federal Trade Commission to permit it to broaden its complaint of unfair trade practices against eight ice cream companies to include all business
(Concluded on Page 4, Col. 4)

DETROIT—Directors of Seeger Refrigerator Co., Whirlpool Corp., and Radio Corp. of America have "agreed in principle" on arrangements for formation of a new company, Whirlpool-Seeger Corp., which will own and operate the present businesses of Seeger and Whirlpool and the stove and air conditioning divisions of RCA.

A white goods and room air conditioner line, which apparently will be marketed under an RCA-Whirlpool label, will be produced for 1956. To whom this line will be made available was not immediately clear.

The proposed merger was disclosed recently by Elisha Gray, Whirlpool president, and John Holl, president of Seeger, in separate letters to stockholders. The merger will require favorable action by the stockholders of the merging companies.

Gray pointed out that Sears Roebuck & Co. is a stockholder in both Whirlpool and Seeger and plans to continue as such in the new company.

"RCA will have a stock interest in the new company," he continued, "but the total stock holdings of RCA and Sears will constitute less than 50% of the total outstanding stock."

"By agreement between RCA and Sears, the common stock owned by each in excess of 20% of the total outstanding common stock will be voted by the president of Whirlpool-Seeger."

It is proposed that Walter G. Seeger, chairman of the board of Seeger, will be chairman of the board of the new company and that Gray will be the president and chief executive officer.

Gray said RCA will receive approximately 1,157,000 shares of Whirlpool-Seeger common stock in exchange for cash and its stove and air conditioning businesses.

"Also," he stated, "RCA will enter into an agreement covering the use of the 'RCA' trademark in combination with
(Concluded on Page 29, Col. 2)

D NARDA Business Costs Survey

Net Profit Ratio to Sales
Rises to 2.6% for 1954..... 6

O Aluminum In Evaporators

Methods of Making Connections and
Preventing Corrosive Effects..... 10

N Quotations and Layouts

How Commercial Firms Use Them,
Described in NCRSA Survey..... 12

M Water-to-Water Heat Pump

Operating Methods That Will Reduce
Problems of Water Treatment..... 20

I Air Conditioning as Beauty Aid

Lennox Research Reveals Strong Connection
Between Climate and Better Complexions..... 22

S Servicing Auto Air Conditioners

Contest Winner Tells How Simple
Selling Techniques Win Customers..... 28

To Be **SURE**
of Satisfaction

Be **SURE** to Specify

READING COPPER TUBING

FOR REFRIGERATION
& AIR CONDITIONING
EQUIPMENT



READING TUBE CORPORATION

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WORKS: READING, PA.

Haco Load Voltage Analyzer Tells Salesmen If Room Conditioner Will Overload Circuit



SALESMAN checks voltage with Haco circuit analyzer.

CLEVELAND — Room air conditioner salesmen now have a tool that will help them overcome the inadequate wiring and overloaded circuit "bugaboo."

It is a portable test instrument that tells, without first installing an air conditioner, what the line voltage drop would be during the actual operating cycle of the unit.

"Heretofore," declared B. J. Bauer, general manager of the Haco Tester Div. of the Heights Air Conditioning Co. here, "this vital information would not be available to the installer until after the air conditioner was installed and operating."

But, by using the tester first, he observed, "the limit of the 10% voltage drop factory designation of the unit rating can be observed."

Bauer said that the Haco load voltage analyzer was developed through his company's many difficult experiences in the earlier years of its operation as air conditioning contractor here.

The analyzer is made of 18 gauge steel and measures 6 by 9½ by 4 in. It has a 4½-ft. cord and plug. It will determine the voltage adequacy for ⅓, ½, and ¾-hp. units.

To operate the tester, the cord is plugged into the proposed circuit outlet. The salesman then depresses a spring loaded double throw switch. Through the medium of two different capacity resistance glo-coil cone heaters, the voltage condition can be observed on a voltmeter unit on the front of the tester. The voltmeter ranges up to 150 volts, a.c.

ASRE Standards--

(Concluded from Page 1)

practices and standards in the fields of refrigeration and air conditioning.

Each ASRE standard is published before adoption, so that all members and the industry may review it and offer comments and suggestions. The ASRE standards are, with a few exceptions, related to the testing and rating of the various kinds of machinery and equipment forming the refrigeration cycle.

ASRE also sponsors standards issued by the American Standards Association, of which ASRE is an Associate Member. An outstanding example of this type is the ASRE-sponsored American Standard Safety Code for Mechanical Refrigeration B9.1-1953, which is widely used by municipalities throughout the country.

The following ASRE Standards on Rating and Testing Refrigerating Equipment are in force:

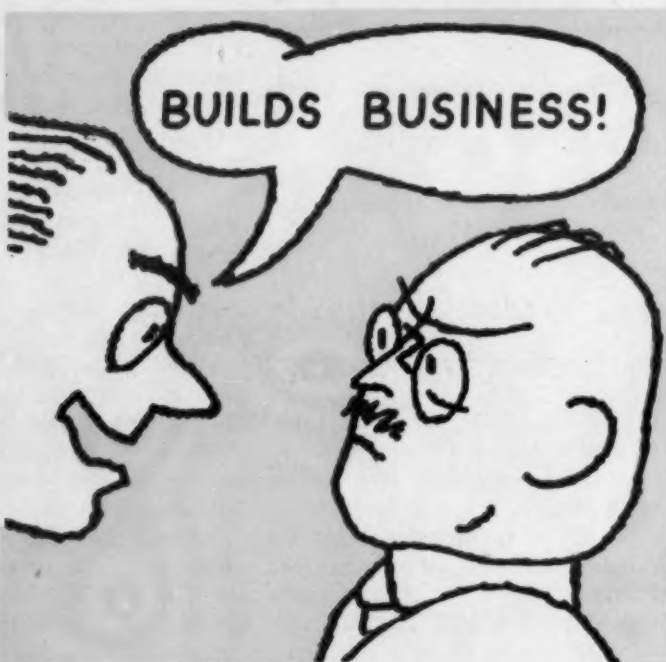
- 14-Mechanical Condensing Units
- 16-53 Air Conditioners
- 18-Self Contained Mechanically Refrigerated Drinking Water Coolers
- 20-Evaporative Condensers
- 22-Water-cooled Refrigerant Condensers
- 23-Refrigerant Compressors
- 24-Water and Brine Coolers
- 25-53 Forced Circulation and Natural Convection Air Coolers for Refrigeration

Also the following for which ASRE is the sponsor:

- ASA-B-60.1 Expansion Valves
- ASA-B-59.1 Recommended Practices for Mechanical Refrigeration on Shipboard.

Proposed Standards for Rating and Testing on which ASRE Task Committees are now actively at work include:

- PS 2.41 Forced Circulation Air Cooling & Heating Coils
- PS 2.5 Plate Coils
- PS 2.6 Cooling Towers
- PS 3.5 Desiccants
- PS 4.4 Bottled Beverage Coolers
- PS 4.5 Ice Makers
- PS 4.6 Dehumidifiers
- Also in preparation are:
- PS 3.4 Designation of Refrigerants
- PS 6.2 Standard for Comfort Air Conditioning.



Selling takes time—

Time makes selling easy!



To clinch more sales in less time, quote a monthly payment, not a total cash price. Many of your prospects need their working capital and usual lines of credit for current operations. No matter how much they need your equipment, they probably won't sign your order now unless you show them a convenient, practical way to pay. That's the COMMERCIAL CREDIT PLAN way. When can we tell you our story? Phone our office in your city or write COMMERCIAL CREDIT CORP., 14 Light St., Baltimore 2, Maryland.



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Stocks on Hand Low

Walkouts Threatening Copper Supply

NEW YORK CITY—Scarcities in copper supplies, brought about by labor walkouts at the mines of some major producers, began to threaten the shutdown of some copper fabricating firms last week.

However, it was believed that settlement of the labor difficulties was likely at any time, in

which case there would probably be no widespread shutdowns among fabricators.

June shipments of copper to American manufacturers totaled 132,842 tons, highest one-month total in three years. It was said that stocks of copper on hand at the end of June totaled but 38,500 tons.

Charge Death Trap Owner Following 2 Suffocations

COLUMBUS, Ohio—The man in whose refrigerator two small Columbus boys apparently suffocated to death has been charged with violating a city ordinance. Emanuel Valentine, 44, was accused of leaving a refrigerator unattended without the door or latch removed.

The boys were Montrose R. Parris and Ronald C. Porter.

At Present Session

Congress May Cut Room Conditioner Tax

WASHINGTON, D. C.—Legislation reducing the Federal excise tax on room air conditioners from 10% to 5% was given a "fair" chance of being passed at the present session of Congress.

The bill (H.R. 6105) has been approved by the House Ways and Means Committee, but must

be passed by the full House, the Senate, and signed by the President.

It probably could not become effective before Sept. 1, at the earliest, if passed. The bill also provides for floor stock tax refunds, following the procedure in Section 6412 of the 1954 Internal Revenue Code.

Clip and Save for Ready Reference

FAST FACTS ABOUT genetron[®] Super-Dry Refrigerants

"Genetron" Super-Dry Refrigerants are made by General Chemical Division, Allied Chemical & Dye Corporation, one of America's great producers of industrial and scientific chemicals for more than 50 years. Long a leader in fluorine chemistry, General has the mines, resources, reserves, experience and production facilities that make it a reliable source of fluorinated hydrocarbon refrigerants.

Careful control in the manufacture of "Genetron" refrigerants guarantees products of the highest quality, extremely low in moisture and other impurities. "Genetron" Refrigerants are identical and interchangeable in all respects with comparable fluorinated hydrocarbon refrigerants produced by any other manufacturer meeting the same high quality refrigerant standards and specifications. They have been tested exhaustively by major manufacturers and are being used in their air conditioning and refrigeration equipment.

- Guaranteed: Exceptionally low moisture content
- Non-corrosive to standard equipment materials
- Non-toxic, non-flammable, stable, safe
- Critical and freezing points well outside range of operating uses
- Solvent action on oil helps prevent solidification or congealing of lubricant
- Miscible with oil; aid in lubrication of equipment

genetron 11

ORANGE LABEL
Trichloromonofluoromethane

genetron 12

WHITE LABEL
Dichlorodifluoromethane

genetron 141

GREEN LABEL
Monochlorodifluoromethane

Selected Physical Data

| | CCl ₃ F | CCl ₂ F ₂ | CHClF ₂ |
|--|----------------------|---------------------------------|--------------------|
| Chemical Formula | CCl ₃ F | CCl ₂ F ₂ | CHClF ₂ |
| Molecular Weight | 137.4 | 120.9 | 86.5 |
| Boiling Pt. (°F) at 1 Atmosphere Pressure | 74.7 | -21.6 | -41.4 |
| Evaporator Pressure at 5°F (p.s.i. absolute) | 2.93 | 26.52 | 43.02 |
| Condensing Pressure at 86°F (p.s.i. absolute) | 18.3 | 108.0 | 174.5 |
| Freezing Point (°F) at 1 Atmosphere Pressure | -168.0 | -247.0 | -256.0 |
| Critical Temperature (°F) | 388.4 | 232.7 | 204.8 |
| Critical Pressure (p.s.i. absolute) | 635 | 582 | 716 |
| *Compressor Discharge Temperature (°F) | 113 | 102 | 131 |
| Compression Ratio (86°F/5°F) | 6.24 | 4.08 | 4.06 |
| Liquid Viscosity at 5°F (centipoises) | 0.650 | 0.328 | 0.286 |
| Liquid Viscosity at 86°F (centipoises) | 0.405 | 0.251 | 0.229 |
| Vapor Viscosity at 1 atm. and 5°F (centipoises) | 0.0096 | 0.0114 | 0.0114 |
| Vapor Viscosity at 1 atm. and 86°F (centipoises) | 0.0111 | 0.0127 | 0.0131 |
| Saturated Liquid Density at 5°F (lbs./cu. ft.) | 97.88 | 90.00 | 83.34 |
| Saturated Liquid Density at 86°F (lbs./cu. ft.) | 91.38 | 80.63 | 73.36 |
| Saturated Vapor Density at 5°F (lbs./cu. ft.) | 0.0815 | 0.6735 | 0.8034 |
| Saturated Vapor Density at 86°F (lbs./cu. ft.) | 0.4461 | 2.569 | 3.213 |
| Specific Volume of Vapor at 5°F (cu. ft./lb.) | 12.27 | 1.485 | 1.246 |
| Latent Heat of Vaporization at 5°F (B.t.u./lb.) | 84.0 | 69.5 | 93.5 |
| Net Refrigeration Effect of Liquid 86°F/5°F (B.t.u./lb.) | 67.5 | 51.1 | 69.3 |
| Specific Heat of Liquid at 86°F (B.t.u./lb. °F) | 0.209 | 0.243 | 0.335 |
| Specific Heat of Vapor at Constant Pressure of 1 atm. and 86°F (B.t.u./lb. °F) | 0.13 | 0.14 | 0.15 |
| Specific Heat Ratio at 86°F at 1 atm. (k = Cp/Cv) | 1.14 | 1.14 | 1.18 |
| *Coefficient of Performance | 5.00 | 4.69 | 4.65 |
| *Horsepower/Ton Refrigeration | 0.943 | 1.005 | 1.016 |
| *Refrigerant Circulated/Ton Refrig. (lbs./min.) | 2.96 | 3.91 | 2.89 |
| *Liquid Circulated/Ton Refrig. (cu.in./min.) | 56.0 | 83.8 | 68.1 |
| *Compressor Displacement/Ton Refrig. (c.f.m.) | 36.3 | 5.81 | 3.60 |
| Thermal Conductivity of Liquid at 86°F (B.t.u./hr./sq.ft./°F/ft.) | 0.0609 | 0.0492 | 0.0595 |
| Thermal Conductivity of Liquid at 32°F (B.t.u./hr./sq.ft./°F/ft.) | 0.0680 | 0.0559 | 0.0704 |
| Thermal Conductivity of Vapor at 86°F (B.t.u./hr./sq.ft./°F/ft.) | 0.0048 | 0.0056 | 0.0068 |
| Thermal Conductivity of Vapor at 32°F (B.t.u./hr./sq.ft./°F/ft.) | 0.0045 | 0.0048 | 0.0060 |
| Toxicity (Underwriters' Laboratories Group No.) | 5 | 6 | 5A |
| Flammability & Explosivity | none | none | none |
| Relative Dielectric Strength of Vapor (compared with Ethyl Chloride as Unity) | 3.00 | 2.40 | 1.31 |
| Odor | Ethereal | Ethereal | Ethereal |
| Type of Compressor in Which Usually Used | Rotary & Centrifugal | Reciprocating & Rotary | Reciprocating |
| Evaporator Temperature Range | 30 to 50°F | 0 to 50°F | -130°F to 0°F |
| Solubility of Water in Liquid Refrigerant at 32°F (gm./100 gm. Refrigerant) | 0.0036 | 0.0026 | 0.060 |
| Solubility of Water in Liquid Refrigerant at 86°F (gm./100 gm. Refrigerant) | 0.013 | 0.012 | 0.15 |
| Oil Solubility (Miscibility with Lubricating Oils) | yes | yes | yes** |

*Based on 5°F Evaporator Temperature and 86°F Condenser Temperature.
**Separates into two phases at lower temperatures.

FREE VALUABLE NEW FOLDERS! Write today for important new informative folders, "Genetron" Super-Dry Refrigerants for Air Conditioning and "Genetron" Super-Dry Refrigerants for Refrigeration.

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All-Industry Show --

(Concluded from Page 1, Col. 2)

refrigeration Institute said that although there has been a heavy demand for exhibit space, some 50 booths still are available.

"Of interest to those in the industry," ARI noted, "is that fact that the Airtemp Div. of Chrysler Corp. has contracted for the entire stage, which should add to the color and attractiveness of the area."

Charges Against Ice Cream Firms --

(Concluded from Page 1, Col. 4)

transactions on equipment, W. Ray Kromer, executive vice president, announced recently.

"Since the FTC examiner ruled that our complaint only covered switch accounts, we have found that testimony of our members may be curtailed since it is difficult for them to determine whether or not the equipment was supplied on that basis," Kromer further explained.

In its formal application, RACCA is requesting that the complaint read similar to the Department of Agriculture com-

plaint against Swift & Co., he said.

The eight ice cream companies are accused of unfair trade practices that include providing their retail outlets with cabinets and other refrigeration equipment at or below cost to retain their business.

RACCA is currently attempting to collect evidence of such practices from its members for presentation when the FTC begins field hearings probably early this fall.

Location and dates of such hearings have not yet been announced.

FRICK Air Conditioning Installed in Building

designed by

FRANK LLOYD WRIGHT

The unique Price Tower, located in Bartlesville, Oklahoma, is the new home of the H. C. Price Co., pipeline constructors. Rising to a height of nineteen stories (190 feet), this revolutionary structure is already famous in architectural circles. Among many other innovations is the incorporation of residential apartments as well as office space.

Supported in cantilever fashion from four vertical columns, all nineteen floors are air conditioned with refrigeration furnished by four Frick "ECLIPSE" compressors—sold and installed by Kay Engineering Co., Frick Distributors at Oklahoma City. All electric lines, water pipes, air conditioning conduits and other service facilities are contained within the four columns.

Frick industrial and commercial refrigeration and air conditioning—famous for over 70 years—remain, as always, the choice of discriminating architects, engineers and contractors.

Address all inquiries to your nearest Frick Branch or Distributor, or write, wire or phone Frick Company, Waynesboro, Penna., USA.

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WAYNESBORO, PENNA. U.S.A.



Any size compressor can be air cooled !
UNICON by **KRAMER**
REMOTE TYPE AIR COOLED CONDENSER

They Won't Be Home

The companies listed below have notified the NEWS that their plants and/or offices will shut down for vacations during the periods shown in the center columns.

The right hand column indicates whether the plant will continue regular shipments during the shutdown period, emergency shipments only, or will make no shipments at all. When offices will operate with a skeleton staff during plant shutdowns, that fact is noted in the third column.

With this list, the NEWS completes its publication of plant shutdown schedules.

Other plants with shutdowns scheduled for early August are listed on page 35 of the July 18 issue.

| Company | Plant | Shutdown Period | Shipments From Plant |
|-------------------------------------|-----------|-----------------|----------------------|
| Baltimore Aircoil Co., Inc. ... | 8/19-9/6 | None | Regular |
| Brewer-Titchener Corp. | 8/15-8/26 | 8/15-8/26 | Emergency |
| Bronson Fan Mfg. Co. | 8/27-9/11 | | None |
| Brunner Co. (Gainesville, Ga.) | 8/15-8/26 | None | Regular |
| Brunner Mfg. Co. (Utica) | 8/19-9/5 | Skeleton | Emergency |
| Bush Mfg. Co. | 8/21-9/6 | 8/21-9/6 | Stock items Only |
| Ebeo Mfg. Co. | 8/19-9/6 | 8/19-9/6 | Emergency |
| Heat-X Inc. | 8/29-9/5 | | Regular |
| Ideal Cooler Corp. | 8/19-9/5 | None | Regular |
| LaCrosse Cooler Co. | 8/22-9/5 | 8/22-9/5 | Regular |
| Larkin Coils, Inc. | 8/26-9/6 | None | None |
| Lehigh Mfg. Co. | 8/27-9/5 | 8/27-9/5 | Emergency |
| Manitowoc Equipment Works | 8/22-8/27 | None | Regular |
| Marlo Coil Co. | 8/8 -8/20 | | Regular |
| McIntire Co. | 8/26-9/6 | None | Emergency |
| Mueller Brass Co. | 8/29-9/6 | None | None |
| Remington Corp. | 8/15-8/27 | 8/15-8/27 | Regular |
| C. Schmidt Co. | 8/22-9/5 | | Regular |
| Sunroc Refrigeration Co. | 8/22-9/5 | 8/22-9/5* | Regular |
| *Except Sales Dept. | | | |
| Temprite Products Corp. | 8/15-8/27 | 8/15-8/27 | Regular |
| Tube Manifold Corp. | 8/13-8/29 | 8/13-8/29 | None |
| Typhoon Air Conditioning Corp. | 8/22-9/6 | | Regular |
| United Refrigerator Co. | 8/22-9/5 | None | Regular |
| York Corp. | 8/22-8/28 | None | Regular |

CASH IN! on RITE COLD



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- THE FLAVOR
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RITE COLD COMPANY

DEPT. 111, 2038 WALNUT, ST. LOUIS 3, MO.

Cooling, Too

Pre-Cast Concrete Slabs Allow for New Type Crawl Space Heating System

LINCOLN, Neb.—Using pre-cast concrete slabs for flooring, a home-building firm here has introduced a new type crawl space heating system which is readily adapted for air conditioning.

This new development of Strauss Bros. here was featured in a recent issue of *House & Home* magazine.

The builder, according to the article, had been putting basements under homes because buyers insisted upon them, "but the Strausses wanted to put the money spent on basements into more usable space on grade. Besides, they finally determined that 'a dry basement was almost impossible to obtain in our climate.'"

The firm began experimenting with concrete slabs intended for roof decking installed as floor planks of a crawl space heating plenum. Success of this led to the investment of \$100,000 for machinery and equipment to make the special slabs. These are cast in 2 by 12-ft. sizes, some being perforated for registers and various utilities.

In the Strauss home plan, a down-draft furnace is centrally located in a closet large enough to accommodate a 2-ton cooling system. Air conditioning is offered to buyers for an extra \$750.

"While the margin is low, Strauss Bros. makes money with the air conditioning unit since little extra work is involved in the general contract."

Sales have been better with

this type house than others the firm has built, it is indicated, but obtaining FHA approval on the design required considerable time.

Earlier studies made by the National Warm Air Heating and Air Conditioning Association have indicated that crawl-space heating systems can produce excellent results, keeping the entire floor warm with only the slightest temperature differences through the house, the article points out.

"Field tests have also shown that houses can be cooled satisfactorily by this method, provided returns are high on the walls."

Bar Assn. Ok's Bond Issue for Cooling; See Docket Speedup

LITTLE ROCK, Ark.—A proposed \$175,000 bond issue for remodeling and air conditioning the Pulaski County Courthouse has won the approval of the county bar association's executive committee.

A committee spokesman said the attorneys are backing the air conditioning plans so that courts may continue functioning through the summer months, thereby providing speedier justice and relieving crowded dockets.

He pointed out that juries now are dismissed from June to October because of the heat in unventilated courtrooms. Court officials are reluctant to open windows because of noise from heavy trucks and other traffic.

Portland Ordinance Prohibits Phone Solicitations

PORTLAND, Ore.—Selling-by-phone will be prohibited in Portland, Ore. in a new ordinance which is scheduled to take effect Sept. 2. The ordinance states:

"It shall be unlawful for any person to solicit a sale of merchandise or service by use of telephone when not invited by the one solicited."

Appliance stores and other phone-using sales outfits such as insurance firms and newspaper want ad takers are protesting loudly.

On the other hand, Portland officials claim that many other municipalities have expressed an interest in the controversial ordinance.

New Process Provides Cheaper 'Copper' Doors, Servel Indicates

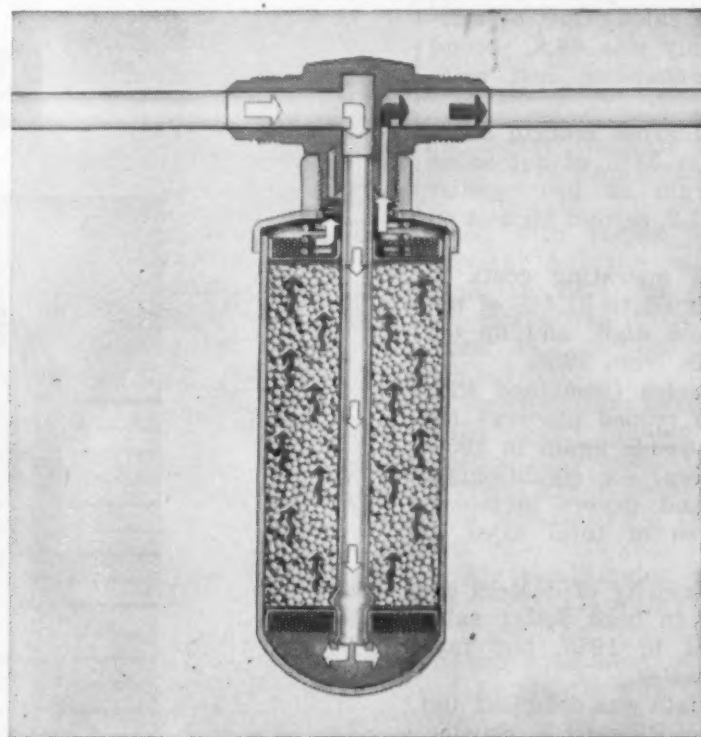
EVANSVILLE, Ind.—Inspired by the booming style trend to copper accents in home equipment, industrial research has now developed a copperlike finish for refrigerator doors that is about 50% cheaper than the finish used previously, according to Servel, Inc.

Servel, which introduced copper-plated doors for refrigerators late in 1953, has adopted a new finishing method which gives housewives the same copper color but at less cost.

The new method produces a copper-impregnated, baked-on finish that is as durable and easy to clean as the standard white finish of refrigerator cabinets, it was stated.



The pink color in the Dry-Eye Connector window changes to blue when T-Flo Cartridge removes excessive moisture.



Note path of refrigerant through uniformly round pellets of Andrite in the T-Flo Dry-Eye Cartridge.

In Charlotte

Bill Would Require Report of Sale of 1,000-Watt Appliances

CHARLOTTE, N. C.—Sales of appliances of 1,000 watts or more capacity to consumers would have to be reported to Charlotte's chief electrical inspector under a proposed city ordinance.

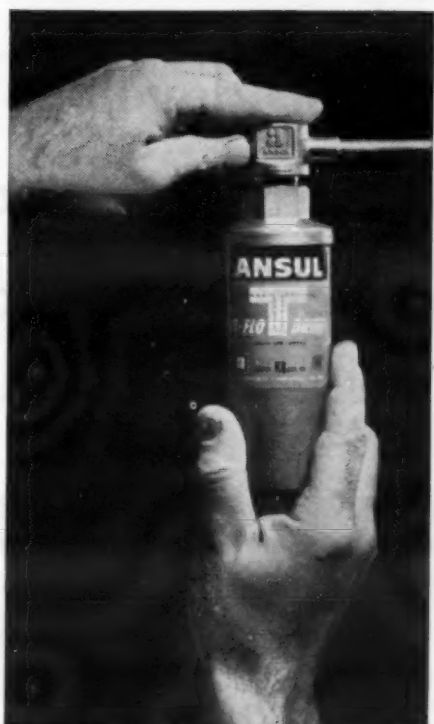
It has been proposed that the city building code be amended as follows:

"All sales of electrical appliances, such as air conditioners, ranges, dryers, dishwashers, and other appliances of 1,000 watts or more capacity, sold to the ultimate consumer, shall be reported by the seller within 10 days to the chief electrical inspector upon a form to be provided by him; failure to secure such forms shall be no excuse for failure to make such reports, and, provided, further, that in determining whether such sales are to the ultimate consumer, the fact that North Carolina retail sales tax is due on said sale, shall be prima facie evidence of necessity of reporting the sales as hereinabove provided."

Cool New Woolworth Unit

ATLANTA—A large air conditioned store has been opened by F. W. Woolworth at Belvedere Plaza here.

Dry-Eye System tells at a glance if refrigerant is wet or dry



Once the Ansul Dry-Eye System is installed you can replace the T-Flo Cartridge without breaking the line.

Takes the guesswork out of refrigerant servicing ... controls moisture, removes acid

No more guessing—now you can tell scientifically if the refrigerant is wet or dry. If the Dry-Eye Connector window shows blue, the equipment is in a safe operating condition. If the window shows pink, excessive moisture is present. To remove the moisture, simply change the T-Flo Dry-Eye Cartridge. That's all there is to it.

Andrite, the drying agent used in the T-Flo Dry-Eye Cartridge, is superior to all other popular desiccants in the deep drying range. This is the range which determines the quantity of desiccant to be

used. As for acid removal, Andrite will pick up 4.5% of its weight in acid when completely saturated with water. The extraordinary drying capacity of the T-Flo Dry-Eye Cartridge allows you, in many cases, to install smaller driers than the ones you are now using.

Test-try the Ansul Dry-Eye System on one of your "problem" units. See if it doesn't make servicing easier, more profitable. Contact your local Ansul wholesaler for a supply of Dry-Eye Systems. ANSUL CHEMICAL COMPANY, Dept. D-12, Refrigeration Div., Marinette, Wisc.



NARDA Reports Net Profit Ratio to Sales Rises to 2.6% for 1954

Dollar Sales and Dollar Profits Down, Survey Indicates

CHICAGO—Net profit ratio to sales for dealers participating in the National Appliance & Radio-TV Dealers Association's 1954 costs-of-doing-business survey rose to 2.6% from the 1953 record low of 2.3%, according to the survey report.

Other main findings of this ninth annual study are:

1. Dollar sales of reporting NARDA dealers declined 0.7% from 1953. This compares with a 1954 sales drop of 5.1% for all U. S. appliance-radio-TV dealers, it was noted.

2. Dollar profits in 1954 dropped 21.6% from 1953.

3. Total cost of goods sold in 1954 reached a new low at 66% of net sales. Cost of merchandise only was 68.8, second lowest merchandise cost ratio on record.

4. Total gross margin set a new high at 34% of net sales. Gross margin on merchandise only was 31.2, second highest on record.

5. Total operating costs in 1954 amounted to 31.4% of net sales, a new high, and up 0.8 ratio points from 1953.

6. TV sales (combined with radios and record players) led the sales parade again in 1954. Refrigerators, air conditioning, freezers, and dryers increased their shares of total sales in 1954.

7. A majority of dealers expect gains in both dollar sales and profits in 1955, but face many obstacles.

Survey data was compiled and analyzed by Richard E. Snyder, consulting economist, who has handled this annual project for NARDA since 1947.

Dealers were asked, among other things, about their main operating problems last year. Regarding this, the report said:

"The business atmosphere surrounding the average NARDA dealer in 1954 was but little changed from that of any other year since 1951, when price cutting—with all of its ramifications—took over in the retail appliance-radio-TV field.

"Wrap together all of the mentions of price-cutting, 'discount house,' with mentions of related practices and situations and the price problem takes first place as the major one faced by dealers in 1954. Excessive trade-

Table 2—Trade-In Per Cent to Unit Sale of Five Key Items

| Appliances | 1954 | 1953 | 1952 | 1951 | 1950 | 1949 | 1948 | 1947 | 1946 | Line |
|-----------------|------|------|------|------|------|------|------|------|------|------|
| Refrigerators | 66 | 68 | 69 | 56 | 42 | 35 | 18 | 11 | 3 | 1. |
| Washers | 65 | 65 | 62 | 52 | 49 | 41 | 27 | 19 | 4 | |
| Ranges | 58 | 60 | 50 | 40 | 36 | 26 | 16 | 9 | 2 | 1-a. |
| Vacuum Cleaners | 35 | 32 | 31 | 28 | 36 | 31 | 22 | 26 | 10 | 2. |
| Television | 29 | 27 | 17 | 15 | 13 | .. | .. | .. | .. | |

in allowances . . . was second in order of frequency of mention.

"Very close behind in the dealers' list of complaints was that which related to by-pass, direct, or 'backdoor' selling on the part of distributors and manufacturers. Distributors

were named as the worst offenders in this connection, but many objections were raised against manufacturers' direct selling to building contractors.

"More than the usual number of dealer complaints were recorded on the subject of low

margins allowed dealers by manufacturers, especially on TV.

Seventy-seven per cent of the reporting dealers stated their expectations regarding sales this year. Of this group, 26% expect no change in total dollar sales as between 1954 and 1955; 60% foresee increases, averaging 15%; and 14% believe that sales will decline, by 20% on the average.

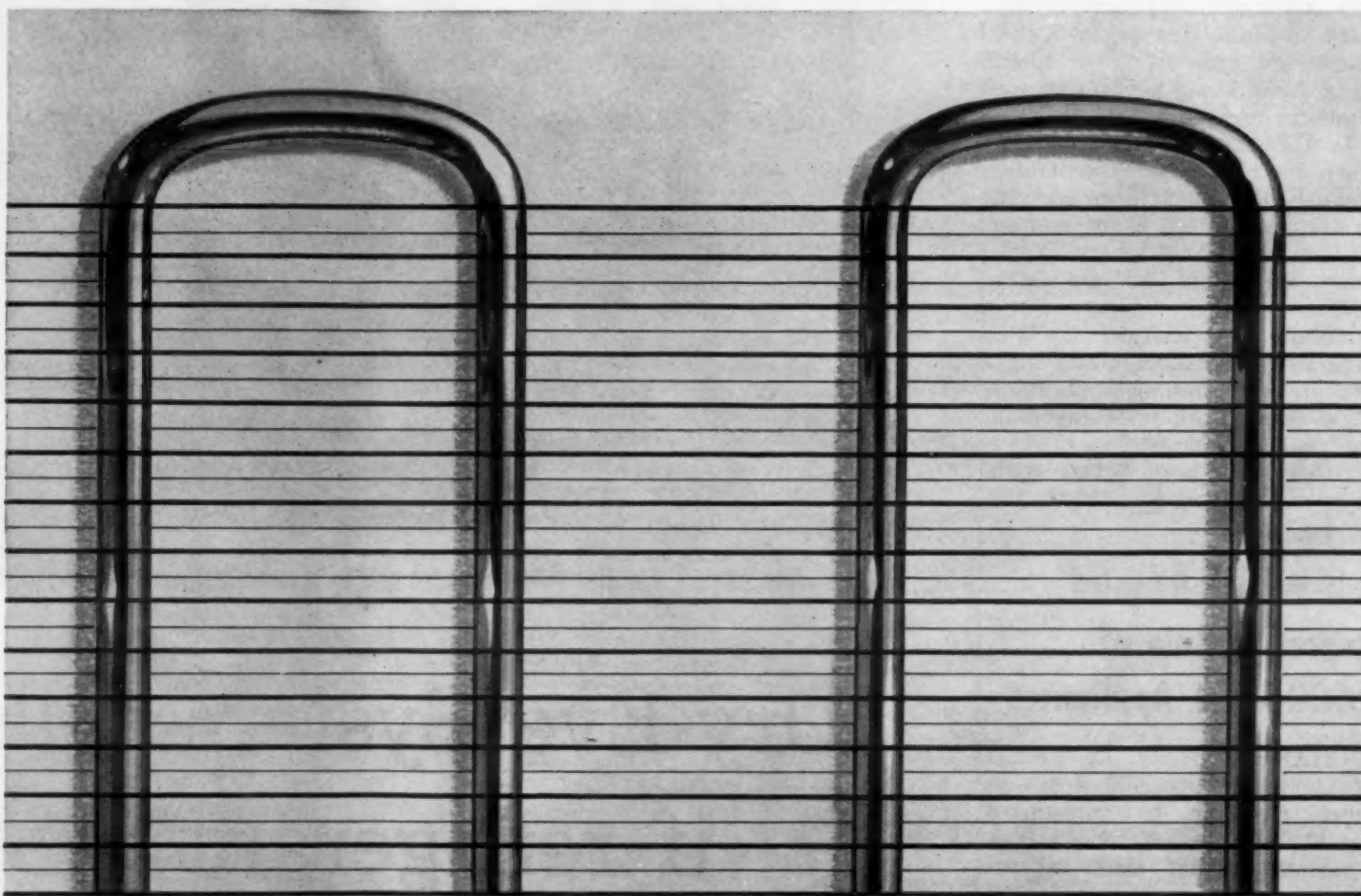
Sixty-two per cent of the dealers hazarded a guess as to their profit prospects in 1955. Of this group, 30% expect no

(Continued on next page)

Table 3—National Operating Cost and Profit Ratios

| Item | 1954 | 1953 | 1952 | 1951 | 1950 | 1949 | 1948 |
|--|-------|-------|-------|-------|-------|-------|-------|
| 1. Net sales (merchandise plus service) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 1-a. Net sales (merchandise only) | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| 2. Cost of goods sold (merchandise plus service) | 66.0 | 67.1 | 68.0 | 68.8 | 69.2 | 67.2 | 68.7 |
| 2-a. Cost of goods sold (mdse. only) | 68.8 | 70.2 | 69.8 | 70.3 | 69.7 | 68.8 | 70.2 |
| 3. Gross margin (mdse. plus service) (Line 1 minus line 2) | 34.0 | 32.9 | 32.0 | 31.2 | 30.8 | 32.8 | 31.2 |
| 3-a. Gross margin (mdse. only) (Line 1-a minus line 2-a) | 31.2 | 29.8 | 30.2 | 29.7 | 30.3 | 31.2 | 29.8 |
| 4. Total operating costs (A through E below) | 31.4 | 30.6 | 28.8 | 28.3 | 24.8 | 27.6 | 26.7 |
| A. Administrative | 22.3 | 21.2 | 20.6 | 20.4 | 16.9 | 19.1 | 18.6 |
| (1) Owners and/or managers salaries | 3.8 | 3.4 | 3.6 | 4.1 | 3.6 | 3.5 | 3.5 |
| (2) Office salaries | 2.2 | 2.2 | 2.1 | 1.6 | 1.5 | 2.0 | 1.8 |
| (3) Salesman's pay | 6.0 | 5.6 | 5.7 | 5.6 | 4.8 | 5.5 | 5.5 |
| (4) Servicemen's wages and expenses | 5.5 | 6.0 | 5.1 | 5.7 | 4.5 | 4.7 | 4.7 |
| (5) Vehicle expense | 2.9 | 2.4 | 2.4 | 1.8 | 1.4 | 1.7 | 1.7 |
| (6) Other administrative expense | 1.9 | 1.6 | 1.7 | 1.6 | 1.1 | 1.7 | 1.4 |
| B. Occupancy expense | 2.9 | 2.5 | 2.5 | 2.5 | 2.6 | 2.6 | 2.8 |
| C. Advertising expense | 2.5 | 2.5 | 2.6 | 2.7 | 2.2 | 2.5 | 2.6 |
| D. Bad debt losses | 0.3 | 0.4 | 0.2 | 0.1 | 0.3 | 0.2 | 0.2 |
| E. All other expenses | 3.4 | 4.0 | 2.9 | 2.6 | 2.8 | 3.2 | 2.5 |
| 5. Net operating profit (line 3 minus line 4) | 2.6 | 2.3 | 3.2 | 2.9 | 6.0 | 5.2 | 4.6 |

Bundy develops square



Another Bundy "first" develops greater efficiency, more secondary surface per coil leg, more cooling area for confined-space applications

Table 1—Appliance Sales Breakdown by Product Type

| Appliances | 1954 | 1953 | 1952 |
|--------------------------------|-------|-------|-------|
| Total | 100.0 | 100.0 | 100.0 |
| TV, radios, and record players | 35.6 | 39.2 | .. |
| Television | * | * | 30.8 |
| Radios | † | † | 3.3 |
| Refrigerators | 17.9 | 16.7 | 19.0 |
| Washers | 13.6 | 14.8 | 15.9 |
| Ranges—Total | 8.3 | 8.3 | 9.3 |
| Electric | 4.9 | 4.9 | .. |
| Gas | 3.4 | 3.4 | .. |
| Air Conditioning | 3.7 | 2.5 | 1.5 |
| Freezers | 3.6 | 2.8 | 3.1 |
| Dryers | 3.3 | 2.9 | 2.0 |
| Kitchen Equipment | 2.6 | 4.3 | 2.2 |
| Vacuum Cleaners | 1.1 | 1.1 | 1.4 |
| All small appliances | 5.5 | 3.6 | 3.8 |
| Other major appliances | 4.8 | 3.8† | .. |

*Television reported as single product group prior to 1953.

†Radios reported as single product group prior to 1953.

‡Not comparable with previous years' data.

WHY BUNDYWELD IS BETTER TUBING



Bundyweld starts as a single strip of copper-coated steel. Then it's . . .



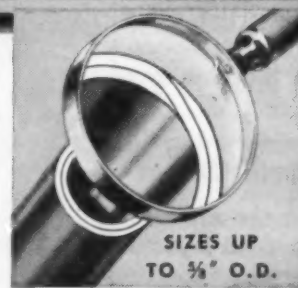
continuously rolled twice around laterally into a tube of uniform thickness, and



passed through a furnace. Copper coating fuses with steel. Result . . .



Bundyweld, double-walled and brazed through 360° of wall contact.



NOTE the exclusive Bundy-developed beveled edges, which afford a smoother joint, absence of bead, and less chance for any leakage.

SIZES UP TO 3/8" O.D.

Table 4—Special Analysis of Expense Detail

| | Ratio to Net Sales | | % of Total Expense | |
|--|--------------------|------|--------------------|-------|
| | 1954 | 1953 | 1954 | 1953 |
| Total personnel, operating expenses and losses | 31.4 | 30.6 | 100.0 | 100.0 |
| Personnel Expenses | 19.2 | 18.4 | 61.1 | 60.2 |
| a—Owners and/or managers salaries | 3.8 | 3.4 | 10.8 | 11.0 |
| b—Office salaries | 1.8 | 1.9 | 6.0 | 6.3 |
| c—Salesmen's pay | 6.0 | 5.6 | 19.6 | 18.4 |
| d—Servicemen's wages and expenses | 5.5 | 6.0 | 17.9 | 19.5 |
| e—Deliverymen's and warehousemen's wages | 1.7 | 1.2 | 5.6 | 4.0 |
| f—Employer's share social security and unemployment compensation | 0.4 | 0.3 | 1.2 | 1.0 |
| Operating expense | 10.2 | 9.4 | 32.7 | 30.7 |
| g—Light and heat | 0.5 | 0.4 | 1.6 | 1.4 |
| h—Janitor service | 0.2 | 0.2 | 0.4 | 0.5 |
| i—Rent | 1.5 | 1.3 | 4.9 | 4.4 |
| j—Property taxes, etc. on real estate | 0.5 | 0.5 | 1.5 | 1.5 |
| k—Vehicle maintenance | 0.8 | 0.8 | 2.7 | 2.7 |
| l—Advertising | 2.5 | 2.5 | 7.9 | 8.1 |
| m—Office supplies | 0.3 | 0.3 | 1.1 | 1.1 |
| n—Credit and trade information | 0.05 | 0.04 | 0.2 | 0.1 |
| o—Collection costs | 0.05 | 0.06 | 0.2 | 0.2 |
| p—Miscellaneous administrative expense | 1.5 | 1.1 | 4.6 | 3.7 |
| q—Taxes (except on property) | 0.6 | 0.5 | 2.1 | 1.8 |
| r—All other expenses | 1.7 | 1.6 | 5.5 | 5.2 |
| Losses | 2.0 | 2.8 | 6.2 | 9.1 |
| s—Building depreciation | 0.2 | 0.1 | 0.5 | 0.5 |
| t—Vehicle depreciation | 0.4 | 0.4 | 1.1 | 1.2 |
| u—Shop equipment depreciation | 0.2 | 0.2 | 0.5 | 0.7 |
| v—Trade-in losses | 0.5 | 1.3 | 1.8 | 4.4 |
| w—Bad debt losses | 0.3 | 0.4 | 1.0 | 1.2 |
| x—Interest | 0.4 | 0.4 | 1.3 | 1.2 |

Costs-of-Doing-Business Survey--

(Continued from preceding page)

change from 1954; 55% forecast a rise in profit, averaging 18%; and the remaining 15% expect an average 25% drop in net return.

A series of new questions were incorporated in the 1954 survey report schedule to find out what actions dealers plan to take to improve operating efficiency in 1955.

Answers to one of these questions revealed that dealers will put special selling effort behind the following product lines in 1955 (listed in order of frequency of mention):

Air conditioning and "kitchen equipment" (tied for first place); dishwashers; ranges and freezers (tied for third place); dryers; TV; disposers, vacuum cleaners; built-in appliances; laundry equipment; refrigerators; "Hi-Fi"; automatic garage

door openers; and furniture.

Answers to another question indicated that dealers will take on items or offer services—not previously handled—outside of radio-TV and appliances in 1955. Leading the list is furniture. Next is music merchandise, including records. Among other things mentioned were freezer-food plans and commercial air conditioning service policies.

Many Dealers Plan Cuts In Advertising

Dealers were also asked what operating economies they will strive for this year. Most mentions in response to this question went to advertising.

"A majority of the dealers mentioning this subject indicated that they would 'cut down on' advertising," the report said. "Some specifically mentioned

cutting out 'gratis' advertising (in union papers, church books, etc.). Others said they would do a better job of planning their advertising."

Additional areas of dealer operations that will get special attention include such things as more efficient bookkeeping; more efficient service shop operations; closer watch over operating costs; tighter control over inventories; more sales productivity per man; smaller allowances on trade-ins; more rigid accounting of repair parts; and eliminating prepaid envelopes in customer statements.

Sales Drops More Than National Average

Regarding national sales, operating costs, and income results in 1954, the report stated:

"Although total U. S. retail sales (all trades combined) in 1954 declined only 0.04% from 1953, the nation's appliance-radio-TV dealers' sales dropped off 5.1%.

"Dollar profits dropped 21.6%, showing that the road back is indeed rough. . . ."

The report said there were significant changes in product sales performance (see Table 1).

"Although TV sales (combined with radios and record players) led the sales parade again in 1954, the percentage for this group dropped to 35.6 from 39.2 in 1953," it was pointed out.

"Refrigerators were in second place again (having lost this position only once—to washers, in 1951) and their share of the total rose to 17.9% from 16.7% in 1953.

"Air conditioning sales took over fifth place in 1954, with 3.7% of the total (displacing kitchen equipment, which dropped to eighth with 2.6% compared to 4.3 in 1953); and freezers rose to sixth with a percentage of 3.3, dropping dryers to seventh, although both had larger shares of the total than in 1953."

As indicated by Table 2, there was a mixture of ups and downs in the 1954 ratios of trade-ins to sales, by comparison with the 1953 figure.

"The refrigerator trade-in ratio dropped two points," the report noted. "The ratio for ranges also dropped two points from 1953, and this may signify a stabilization for this product group whose trade-in ratio trend rose very sharply between 1951 and 1953. Trade-in ratios for washers, vacuum cleaners, and TV sets all rose between 1953 and 1954, but in no case more than three points."

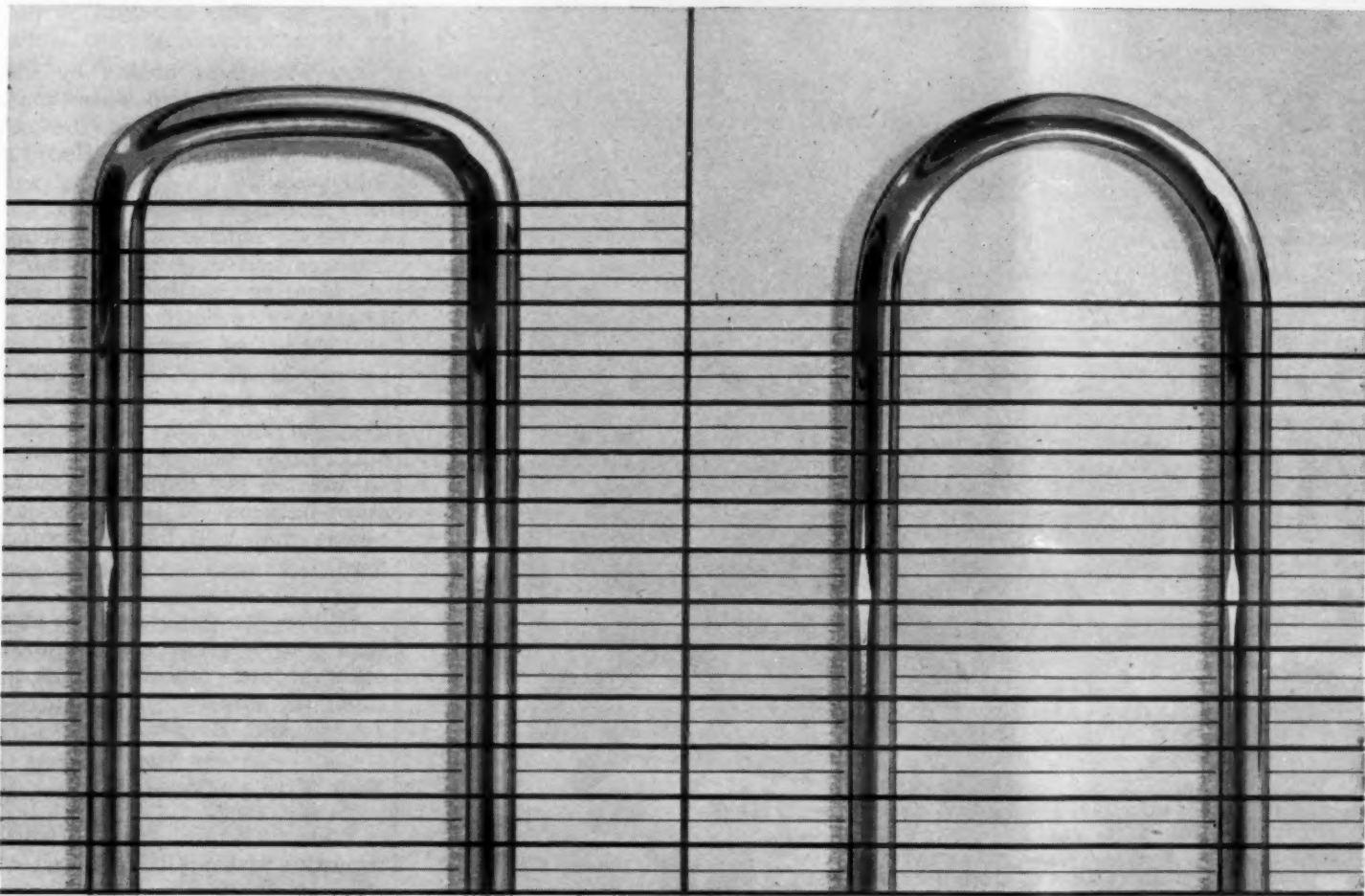
Continuing, the report stated that the total dollar value of inventories held by the reporting dealers at the end of 1954 was 6% below the comparable starting figure for the year. This result contrasts with a 1953 year-end inventory value that was 8.4% higher than the beginning figure, it was pointed out.

Another survey finding was that sales per square foot of selling space, "a rough measure of selling efficiency," amounted to \$85 in 1954 compared to \$101 in 1953 and \$104 in 1952.

"Changes in the composition of the reporting group and in selling effort affect this measure to some extent," it was explained. "The 1954 figure was

(Continued on next page)

end condenser coils!



Now Bundy introduces another "first" to the refrigeration industry—square end condenser coils! This new design gives you more secondary surface per leg length of the coil, providing for more cooling surface.

You get more efficiency from the same size condenser with the Bundy square end coil. Approximately 6 more wires can be attached across each coil leg, making it possible to get greater cooling efficiency in a smaller condenser.

Finding new ways to save our customers time and money is a full-time job with us. And our success depends upon new designs—expert designs carefully developed and perfected by topnotch Bundy engineers, working with dependable Bundyweld Tubing.

Remember that Bundyweld is leakproof by test,

thinner-walled yet stronger, has high thermal conductivity, and takes easily to standard protective coatings.

Get the advantages of dealing with the leader in tubing manufacture. Compare our plus-services of unexcelled fabrication facilities, expert engineering help, custom packaging of orders, and prompt, on-schedule delivery.

Check into our new square end coils for your own refrigeration designs. And for expert assistance on your tubing problems: call, write, or wire us for prompt information.

BUNDY TUBING COMPANY
DETROIT 14, MICHIGAN

BUNDYWELD TUBING®

DOUBLE-WALLED FROM A SINGLE STRIP

Bundy Tubing Distributors and Representatives: Cambridge 42, Mass.: Austin-Hastings Co., Inc., 226 Binney St. • Chattanooga 2, Tenn.: Pearson-Deakins Co., 823-824 Chattanooga Bank Bldg. • Chicago 32, Ill.: Lapham-Hickey Co., 3333 W. 47th Place • Elizabeth, New Jersey: A. B. Murray Co., Inc., Post Office Box 476 • Los Angeles 58, Calif.: Tubasales, 5400 Alcoa Ave. • Philadelphia 3, Penn.: Rutan & Co., 1717 Sansom St. • San Francisco 10, Calif.: Pacific Metals Co., Ltd., 3100 19th St. • Seattle 4, Wash.: Eagle Metals Co., 4755 First Ave., South • Toronto 5, Ontario, Canada: Alloy Metal Sales, Ltd., 181 Fleet St., E. • Bundyweld nickel and Monel tubing are sold by distributors of nickel and nickel alloys in principal cities.

NARDA Business Costs Survey--

(Continued from preceding page) more in line with that for 1951 (\$82), 1950 (\$75), and 1949 (\$73) than with the 1952 and 1953 results, not surprising since the latter two years were 'all-time-high' years in terms of sales volumes."

Operating cost and profit ratios for the entire reporting group are shown in Table 3. Discussing highlights in the 1954 national operating cost picture, the report stated, in part:

"Net sales (include sales of merchandise and revenue from service): In 1954 merchandise sales accounted for 86.8% of the total while service revenue amounted to 13.2%. The latter figure was a record high, surpassing the previous peak of 11.7% set in 1953, indicative at once of the increased technical

character of appliance-radio-TV products and the growing requirement for refurbishing used appliances for resale.

"Cost of goods sold (inventory at cost as of Jan. 1, 1954, plus purchases at cost during 1954, plus freight and delivery costs, minus inventory at cost as of Dec. 31, 1954): The most favorable development in the over-all dealer cost experience of 1954 was a decline in the total cost of goods sold.

"The 1954 ratio was 66% of net sales compared to 67.1% in 1953. Moreover, the 1954 ratio was the lowest ever recorded in a NARDA survey.

"The 1954 cost of service parts and supplies accounted for 9.5% of total cost of goods sold, up from 7.5% in 1953, and this contributed to a drop in the ratio for cost of merchan-

dise only from 70.2 of net sales in 1953 to 68.8 in 1954.

"Gross margin (the difference between net sales and costs of goods sold): Total gross margin in 1954 was 34% of net sales, the highest of record due to cost of goods sold setting a new low.

"Gross margin on merchandise only rose to 31.2% of net sales from 29.8% in 1953 and thus tied the second highest merchandise GM figure on record, that of 1949. The service contribution to the grand total GM dollar figure amounted to 20% in 1954.

"Total operating costs (the sum of the operating cost ratios for all specific expense elements listed in the survey schedule): In 1954, total operating costs reached a new high of 31.4% on net sales, up 0.8 points from 1953. Had it not been for a drop in costs of goods sold, this result would have forced the net operating profit to a new low.

"Administrative costs: Total administrative costs siphoned off 22.3% of the sales dollar in 1954, the biggest ratio for this expense group ever shown in a NARDA survey. The 1954 ratio compares to 21.2 for 1953.

"Net operating profit (obtained by deducting the total operating expense ratio from gross margin): The over-all net profit ratio for the reporting NARDA dealers in 1954 was 2.6% of net sales, up 0.3 points from the 1953 record low of 2.3.

"This was achieved on the strength of a decline of 1.1 ratio points in cost of goods sold, which offset by 0.3 points a rise of 0.8 points in total operating expense."

The report also includes a special analysis of expense detail (see Table 4). This analysis itemizes expense results at the national level, for 1954 and 1953, in finer detail than does Table 3.

Inside Dope

By GEORGE
F. TAUBENECK

(Concluded from Page 1, Col. 1)

Philosophy of the Week

"To begin looking for things that are wrong is to succeed in the search; to start out looking for the things that are right can also result in a successful search. Looking for the wrong things does one thing to us, while looking for the right things does something else and very different."—ROY L. SMITH, *Christian Advocate*.

"Change isn't necessarily improvement. Sometimes an old setup is better than a new upset."—*Sales Maker*

"I am convinced that success is made up of doing the simple things well. I wish that the terrific urge for new methods could be transferred into a desire of equal strength to do the relatively simple things that go into the job of management and do them more efficiently."—CLAUDE E. DUNFREE, *Managers Magazine*.

"A wise man profits by his own experience. A wiser man profits just as much by the experiences of others."—*Hoard's Dairyman*.

"Those who discuss sharing the wealth forget the necessity of creating wealth to share. There has recently grown up a philosophy of 'survival of the fittest' instead of the fittest."—DAVID SARNOFF, president, Radio Corp. of America.

"Income tax laws have made more liars out of the American people than golf has."—*Bendix-line*.

"When you get rid of the idea that your mission is to regulate other people, you are in a position to improve yourself."—*Journeyman Barber*.

For Sure, Deep Down

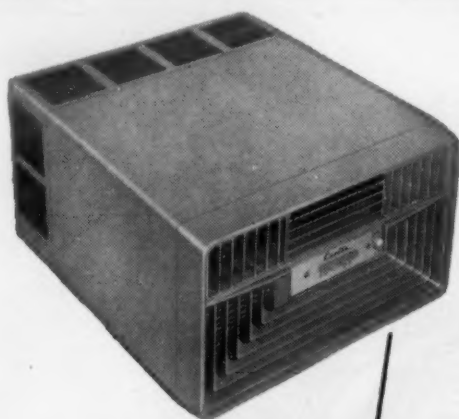
Widest scope for personal incentive is the GREAT fact of life which has made America unsurpassable, Crawford H. Greenewalt, president of du Pont, avers.

"There is no point in discussing whether there shall or shall not be incentives, for they are a fact of life," he insists. "I am convinced that those incentives are best which tend most strongly to advance the good of society as a whole. And nowhere have we a better demonstration of that thesis than in these United States.

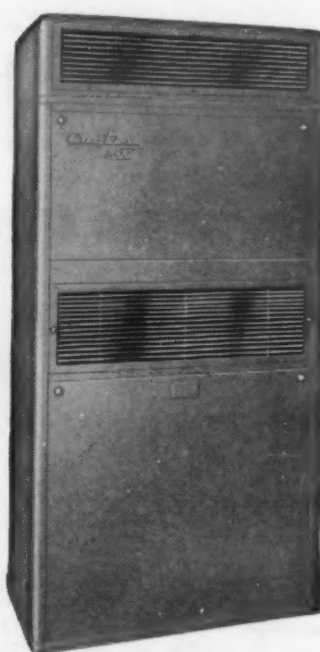
"That nation is strongest that provides whatever incentives are needed to make its people do their best," he declared. "That nation is weakest that fails to utilize the tremendous power of self-interest."

The greatness of the United States is due to this fact: "Under our principle of individual liberty, human incentive has been given its widest possible scope. To each of us has been given the opportunity to do his best; to each the right to retain the fruits of his labors;

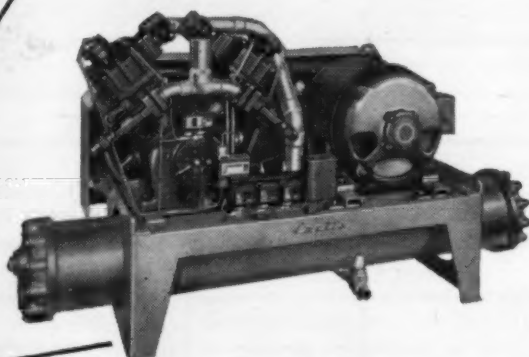
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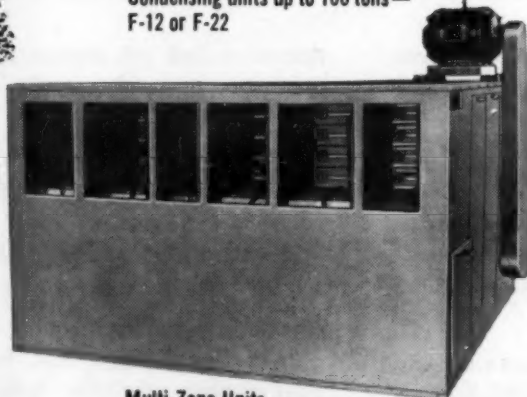
Window Air Conditioners



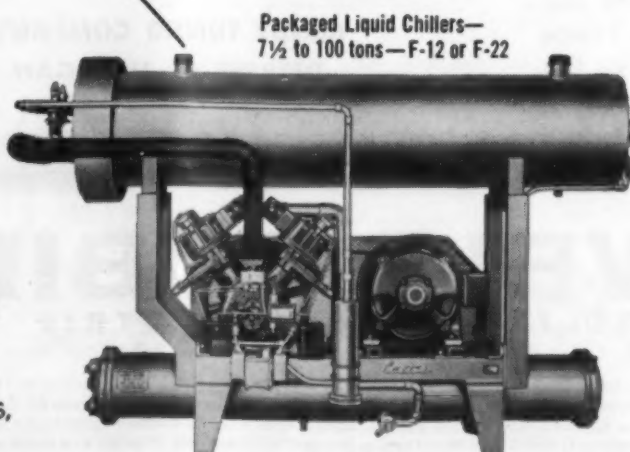
Packaged Air Conditioning units—2 to 20 tons



Condensing units up to 100 tons—F-12 or F-22



Multi-Zone Units—serving 2 to 8 zones



Packaged Liquid Chillers—7½ to 100 tons—F-12 or F-22

More jobs...
More profit!

WITH THIS

complete
Curtis
LINE

You'll sell more jobs, and make more profit, with this well-rounded Curtis line. Curtis equipment sells readily because it is backed by one of the oldest and most respected names in the business. Curtis products are presold for you by hard-hitting national advertising in *Saturday Evening Post*, *Time* and *Newsweek*, plus many national business and trade magazines.

WRITE TODAY for information on how you can obtain a Curtis direct factory franchise.

Curtis REFRIGERATING MACHINE DIVISION

of Curtis Manufacturing Company
1912 Kienlen Avenue, St. Louis 20, Missouri

Other Curtis Products: INDUSTRIAL AND AUTOMOTIVE AIR COMPRESSORS, AUTO LIFTS, CAR WASHERS, AIR HOISTS

Inside Dope

By GEORGE
F. TAUBENECK

(Concluded from preceding page)
to each the responsibility of preserving those rights for his neighbor."

All human accomplishments are important, but those of a limited few have been great. All contribute to the common good, but those at the top of their fields contribute more.

While Henry Ford acquired a great personal fortune, "it would be counted small when measured against the benefits his genius for mass production created—in terms of employment, profit, and enjoyment for millions of people.

"The point is," he clarifies, "that rewards for individual achievement, no matter what form they take or what their amount, are at bargain-basement levels when measured against public benefits."

Incentives are simple and few in number: the inner satisfaction of doing our best; prestige; power and influence; but for most people the strongest incentive is financial gain because of what can be done with it, he said. What is done with the reward, or why it is wanted, is of no real importance.

The important thing is that the individual do his best "for only then can the nation reap the greatest benefits from his abilities," Greenewalt furthers. Personal prestige is more likely to go with success in the sciences, arts, or professions, so business must balance this with financial reward if it will fill its ranks with able people.

"Much has also been said about the vulgarity of the money motive, but I doubt one could find a cleaner or more honest basis for rewarding high performance. A desire for power is surely less worthy, and I cannot believe that effort simply to win the admiration of the crowd are ethically more desirable."

If the financial incentive is absent or reduced too low, candidates for management positions will decrease.

"Certainly the desire for power, or the desire for prestige, or admiration, are not characteristics that would be expected to lead to the kind of competence we need in business management," he explores. Substitute motives have been tried elsewhere, but, while some are harmless and other merely distasteful, none of them is in harmony with democratic society.

"The solution will depend on informing our people in a manner that is sound, objective, and free of bias or political controversy.

"I think much could be gained, therefore, if people knew the whole truth about our present tax system. When they do, they will realize, first, that weakening of incentives hurts everyone, not just the more successful minority. And they will discover, most importantly, that the high cost of government is not being paid by the few but by the many.

"I doubt that there is much to be gained by berating the administration or our represen-

tatives in Washington for Federal spending and governmental extravagance," Greenewalt said. "Those in public office after all reflect what they consider the wishes of their constituents to be. For that we cannot blame them.

"I do think, however, that we can fairly criticize government's unwillingness to tell the people the realities of the burdens they are asked to assume. It is as if they had no confidence in the native intelligence of the voting

public; as if they adopted every means at their disposal to make them believe that government spending and the resultant high level of taxation were in some way removed from their own shoulders."

He is convinced that it is the duty of all thinking men to inform the public about the effect of government give-aways.

"We find sham and deceit triumphant in many parts of the world; I am afraid that they are not wholly strangers here at

home. Everyone knows that personal income taxes come out of his own earnings. I suspect, however, that few know that aggregate personal income taxes are now scarcely 50% of total Federal taxes."

Pointing to the corporate income tax, Greenewalt believes there is much misunderstanding as to who really pays it.

"It seems clear to me that corporation taxes in the long run are simply added to the cost of the goods and services the

company has for sale. Just as prices must recognize an increase in labor and materials cost, so must they take into account taxes levied by Government. For any business must earn a profit if it is to survive.

"Taxation in sneakers is just as real and just as costly as taxation in hobnail boots," Greenewalt concludes. The manipulation of concealed taxes "is a sorry device to hide the fact that personal income taxes no longer can pay the bill."

AT LAST! what the industry has been waiting for!



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Aluminum In Evaporators

New Techniques In Making Connections and Prevention of Corrosive Effects Outlined at ASRE Conference

MILWAUKEE—Aluminum is now almost universally used in the construction of evaporators in household refrigerators, and its use is spreading in the construction of evaporators for air conditioning units.

Some of the new techniques in fabricating aluminum and in evaporator construction generally, and some of the problems encountered in the use of aluminum in evaporators, were discussed in the Domestic Refrigerator Engineering Conference during the midyear meeting of the American Society of Refrigerating Engineers here.

With F. L. Tarleton of Hotpoint presiding, John Blomquist of Reynolds Metals Co. led off describing some of the advances made in "Braze Aluminum Evaporators."

Roll Bonding

Then Mason Randel of Olin Mathieson Chemical Corp. discussed the new process "Roll Bonding Aluminum Evaporators" under which it is possible to create any pattern of aluminum tubing within a single homogeneous sheet of metal.

Randel said that the process has been proved commercially in the refrigeration industry by cutting re-tooling costs to practically nothing, cutting re-tooling time, lowering production and production costs, and increasing the efficiency of the evaporator plates.

Connectors

In discussing the next subject "Connectors for Aluminum Evaporators," E. G. Beck, Jr. of The Stolle Corp. pointed out that the use of an aluminum low side in a refrigeration system introduces a problem not encountered in ferrous and other types of non-ferrous low sides.

The problem arises, Beck said, because there has not been developed, thus far, any practical way of making, by the torch brazing methods generally employed for that purpose, consistently satisfactory joints between aluminum tubing and the other non-ferrous or ferrous tubing used in the rest of the system.

It is thus necessary to equip aluminum low sides with connector tubes of copper or stainless steel, and the joints between these connector tubes and the aluminum tubing must be made using methods which product consistently satisfactory results and are practical on a production basis.

Up to the present, practically all connector tubes used in production have been of copper flash butt welded to the aluminum on machines designed specifically for that purpose.

Electrolytic Corrosion

The problem of electrolytic corrosion in the field has been solved with the use of tightly adherent organic coatings either brushed on or applied in the form of sleeving.

Beck said that promising developments, some of which may

eventually reach the production stage, have been seen in joints made by cold welding copper to aluminum, by brazing stainless steel to aluminum, and by mechanically joining copper to aluminum.

Aluminum Corrosion Control

Discussing "Aluminum Corrosion Control in Refrigeration Service," R. L. Haldey, engineering manager, Metallurgical and Ceramics Laboratory of the General Electric Co., pointed out that resistance of corrosion is a doubly important property in aluminum since it must retain a clean bright appearance, and the ability to retain refrig-

erant, for a number of years.

The high reactive nature of a clean aluminum surface, he stated, results in susceptibility to corrosion by electrolytic cells activated by contact with chemical concentration variations, differential aeration, "nobler" metals, or traces of chemical compounds which promote failure of the protective film.

All of these unfavorable environmental factors can appear in refrigeration service.

General corrosion which is detrimental to appearance may not represent as serious a hazard as the presence of isolated, perforating pits results from concentrated corrosion in small areas.

Moisture condensing from the atmosphere permits continuous formation of electrolytes for corrosive attack. Hazards are greatest during periods of defrosting and in gradient areas where condensate does not freeze. It can promote the operation of corrosion processes arising from such factors as unsealed crevices, contact with copper components in the system, the use of insulating or structural parts from which impurities can be leached, improper joining techniques, and atmospheric contamination.

Finishing

In "Finishing Aluminum Evaporators" said R. B. Vanden Berg in discussing that subject, the process consists essentially of cleaning surfaces, texturing, and anodic oxidation.

In cleaning the aluminum surface (pre-treatment) before the coating is applied, various steps are followed to assure the

removal of detrimental constituents.

One such series of treatment consists of the following steps:

1. Water rinse.
2. Acid rinse.
3. Water rinse.
4. Water rinse (dip spray).
5. Caustic soda.
6. Water rinse.
7. Acid smudge remover.
8. Water rinse.

Solution used in acid phase was 10% nitrate and 40% hydrochloric acid.

After the necessary surface pre-treatments, the evaporator is made the anode in appropriate sulphuric acid electrolyte to form an anodic oxide coating on the surface. This oxide coating protects against abrasion and corrosion.

Flux residue must be removed completely before the anodizing treatment is undertaken, the speaker warned. Recessed area

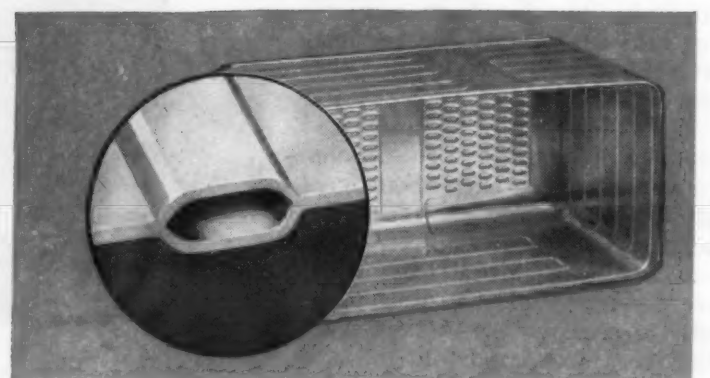
(Concluded on next page)



The Modern



NEW FLEXIBILITY OF DESIGN! Almost any tubing pattern that can be designed on a drawing board can be quickly and economically transformed from the drawing board to Reynolds Tubed Sheet with practically unlimited circuiting possibilities. Redesigns are simplified—can be made in much shorter time and at much lower cost.



GREATER ECONOMY — BETTER PERFORMANCE! In refrigeration, for example, metal ordinarily used for evaporator tubing, accumulators and receivers is eliminated. Tube bending and other assembly operations are done away with. No brazing or flux contamination or frost pinching. Passageways can be flat or oval, placed closer together to add to strength.

Aluminum In Evaporators--

(Concluded from preceding page) evaporators that defrost at frequent intervals have seemed most prone to pitting.

'Danger Areas'

"Danger areas" and conditions that may lead to "pitting" of aluminum evaporators through electro-chemical reaction are some of the following:

Tubing connections in thermal insulating materials.

Copper bearing surfaces that rub against aluminum, and leave a deposit of copper on the aluminum.

Unremoved brazing flux.

Crevices on which moisture can collect, or any place on which moisture can collect.

Best preventive measures—sealing off any "danger areas" to keep out moisture.

Tarleton also said that experience had indicated that

evaporators that defrost at frequent intervals have seemed most prone to pitting.

Some plus factors for the aluminum tubing is that there has been (1) no evidence of pitting from "the inside out" in tubing; (2) there does seem to be a problem with the use of aluminum fins on copper tubing in air-cooled condensers.

In butt-welding copper connecting pieces to aluminum, the joint must be kept as thin as possible, because as the joint becomes thicker, it was pointed out, it becomes weaker.

To keep it as thin as possible special welding techniques, a speed up of the members coming together to squeeze out the excess alloy, is desirable. It was recommended that only annealed copper tubing be used, to provide strength against bending or twisting.

Length of Connector Tube

Minimum length of the connector tube desirable is said to be 4 in.

In field service joints are frequently open to collecting moisture, and protection should be provided against electrolytic and corrosion action.

This can be done by shrinking on a vinyl plastic, or by coating the joint with varnish, or vulcanizing a rubber protective coating over it.

In brazing such connections, any sealing of the surface to protect against moisture will be helpful, it was said.

Dipping the brazed surface in wax is one method that has seemed to work. One member at the conference stated that he had successfully used Johnson wax, grade W-61-15, making a weak solution with it, and applying it by dipping or spraying.

Argentine Firm Plans Large Plant To Build Up to 200,000 Refrigerators

NEW YORK CITY—Siam di Tella, Ltda., Argentine's largest electrical manufacturer, is planning to build a new refrigerator factory in the Buenos Aires area which will have an annual capacity of 150,000 to 200,000 units, more than twice its present output, according to Cornelio Oswald, head of the company's refrigerator production.

Siam di Tella has applied for permits to import production machinery for the new plant which will create jobs for about 4,000 persons.

The 42-year-old concern manufactures refrigerators and other electric products under license from Westinghouse Electric International Co.

"Siam di Tella's expansion is

in anticipation of the greater market for electrical products which will soon open up as Argentina begins producing some of its own fuel," Oswald declared. "Lack of local oil production has placed a strain on our foreign exchange," he said, "and has held back development of steam-electric generating capacity. This in turn has kept use of electric products for home and industry far below our great potential."

Despite the exchange bottleneck, Compania Argentina de Electricidad, Compania Italo-Argentina de Electricidad, and other utilities have been increasing their installed capacity, he added. In addition, the government's \$20 million steam-electric station at San Nicolas will begin operation next year.

"As in the United States, the trend in Argentina is toward larger refrigerator units," Oswald explained. "More than three-fourths of our production is now in the 7½-cu. ft. model, and the trend is beginning toward the 10-ft. unit."

June Sales Busted Out All Over, Says Commerce Dept.

WASHINGTON, D. C.—Sales were bustin' out all over in June.

A preliminary report by the U. S. Dept. of Commerce shows that retailers sold an estimated \$15.6 billion of goods during the month. That is \$900 million more than in June, 1954 and \$100 million more than in May.

The report is based on a survey of 1,800 retail firms operating some 37,000 stores around the country.

The Commerce Dept. also estimated that total inventories at manufacturing, wholesale, and retail levels stood at \$78.6 billion on May 31. This is \$300 million below the same date a year ago but \$100 million higher than the end of April.

Servel Appoints Outlet In Billings, Montana

EVANSVILLE, Ind. — Appointment of Appliance Distributing of Billings, Mont. as distributor of Servel appliances for Montana was announced by Richard S. Testut, vice president and general manager of the home appliance sales division of Servel, Inc.

The firm's territory includes all of the state except for two southeastern counties.

Headquarters of the new distributor are 116 N. 27th St., Billings. The firm's officers are Glade Larsen, president and general manager; C. C. Musburger, vice president; and O. B. Dickey, service manager.

Cool Banking

GREENVILLE, Ala. — The first new bank to open its doors in Greenville in over 50 years held its formal opening July 15. The building is completely air conditioned.

Concept in Heat Transfer!

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From Refrigeration to Air Conditioning—from Automotive to Aircraft, Reynolds Tubed Sheet promises great benefits to many industries. And here's why:

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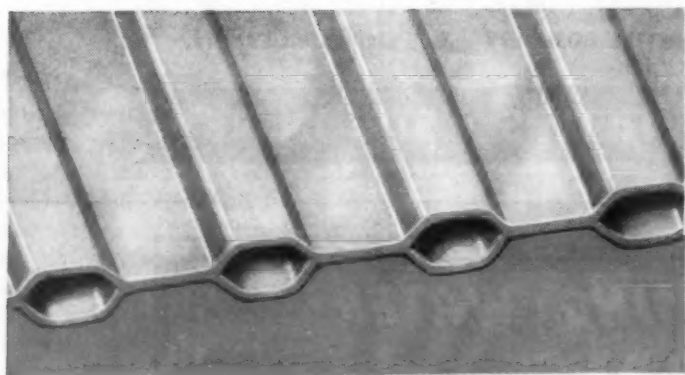
Put these and other benefits of Reynolds Tubed Sheet to work for you! For full details contact the Reynolds office listed under "Aluminum" in your classified telephone directory or write Reynolds Aluminum Fabricating Service, 2053 South Ninth St., Louisville 1, Ky.



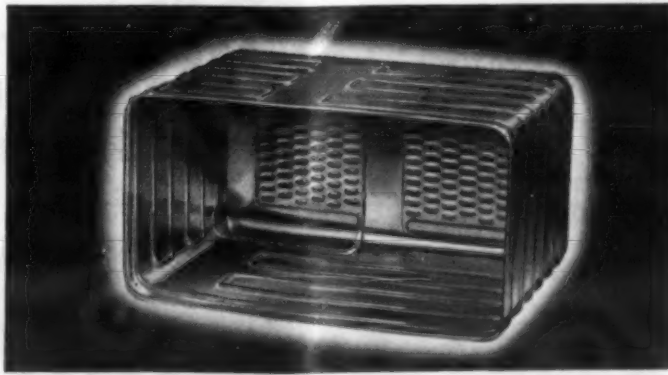
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NO SEPARATE TUBES! The tubes in Reynolds Tubed Sheet are in the sheet. Tube design is printed on sheet with bond-preventing compound. Two sheets are metallurgically bonded into one under pressure. Hydraulic energy expands tubing along non-bonded printed design.



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**ENGINEERED
TO MAINTAIN
ANY TEMPERATURE
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THROUGHOUT
THE TRIP**



The "Standard" for truck refrigeration—in sizes to fit any application. No moving parts, no servicing necessary. Can carry eutectic solutions ranging from -59° to $+26^{\circ}$. May be installed in horizontal position suspended from the ceiling, in a vertical position along the walls, or as a partition. In the following standard thicknesses and connections. 4-Connection $2\frac{1}{2}"$ and $2\frac{3}{4}"$; 3-Connection $1\frac{1}{2}"$; 2-Connection $1"$.



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How Commercial Firms Handle Quotations, Layouts

PHILADELPHIA — Prepared quotations are widely used in the sale of commercial fixtures, but not all distributors use them on every job, indicates a recent survey of 69 members made by the National Commercial Refrigerator Sales Assn.

While 22 members revealed they prepare quotations on all jobs, the other 47 in the survey use them in varying degrees. Some make them up "on large jobs only," others "as requested by the customer," for example.

Only 19 use a standard quotation form, but 47 indicated they use a standard folder as a cover for the quotation. Distributors were evenly divided on putting any advertising on the cover.

Nearly All Include Brochures with Quotes

Virtually all the distributors in the NCRSA survey include brochures with their written quotations, only five indicating that they did not.

Questioned as to whether they quoted total prices only or prices on individual pieces of equipment, 21 said they quote the total price; 20 said they quote "both ways, depending on the job"; 18 quote individually; nine quote "as the customer wishes."

Quotations are on an installed basis for 42 distributors; "most installed" for 11; 11 others said they quote either installed or f.o.b. factory; two explain they quote "as customer wishes"; two quote f.o.b. factory.

Forty-nine distributors quote net price; seven quote list less discount; 12 quote both ways, and one distributor quotes list with no discount.

Most distributors (37) do not generally quote the installation separately. Fourteen do so when requested; 13 do "sometimes"; four generally do, and one does so on complete store jobs.

What Services Are Included In Price?

To the question "what services are included in quoted price?" NCRSA received a variety of answers: 1 year's service and warranty, 15; 90 days' free service and 1 year's warranty on parts, eight; warranty, free inspection, and 1 year's service, eight; delivery, installation, all warranties, and free service, nine; warranty and free inspection, seven; all service, seven; warranty only, three; 1 year's free service, 1 year parts, and 5-year warranty on compressor, two; freight, delivery, removal of windows (if necessary), 1 year's service and warranty, one; parts warranty and labor guarantee, one; "whatever customer requests," one; one free inspection, one.

Fifty-four distributors said that the head of the company reviews quotations.

Store layout drawings are included in the quotations by 40; 18 don't.

Grocery stocking arrangements are included in the layout by 22 distributors, but not by 25 distributors. However, another nine said they did sometimes; three "very seldom"; two do so "when requested";

four, "after order is secured." One plans location only while another offers "verbal ideas."

To the question "are electrical and plumbing connections included in your layouts?" 29 said yes; 14 said no; five do when requested; six do "after order is signed and accepted"; nine do "occasionally"; one does "only when sure of order."

Who Does Drawings?

In 27 of the firms the salesman does the layout drawings; in 18 firms it's the salesman working with the draftsman; 17 firms have the engineer make the drawings; it's the draftsman in four establishments; the salesman and office personnel in two firms, and officials in one.

Thirty firms leave layout drawings with the prospect, but 14 don't. Eight told NCRSA they don't "if we can avoid it"; three do sometimes; three seldom do; two said it "depends

on prospect"; one does "only if we are sure of order."

"When you leave brochures and quotations, are they sometimes used to your disadvantage?"

This question brought "yes"

answers from 41; "sometimes" from nine; "not often" from five; "no" from four, while three saw it as "a necessary risk."

Almost all (65), however, agreed that layout drawings help in selling the prospect.

ATTENTION DEALERS IN

FRIGIDAIRE ICE CUBE MAKERS

now available for the 200 lb. and 450 lb. cubers

Larger Storage Bins and Crushing Facilities

375 lb.—400/500 lb.—1,000 lb. bins

WITH AND WITHOUT CRUSHERS

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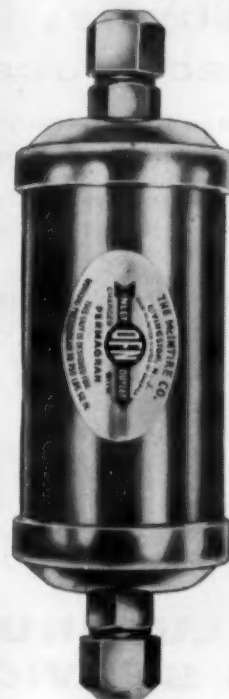
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Every claim, every selection chart, every rating we make for DFN driers is based on countless field tests and installation reports. They take the hocus-pocus and guesswork out of drying—give you an easy, accurate way to know what size DFN drier to use, its capacity, its pressure drop, for each system.

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REMOTE TYPE AIR COOLED CONDENSER

1960 Will Find Freezer In One Out of Three Homes, Rishel Predicts

NEW ORLEANS—By 1960 one out of every three homes in the United States will own a food freezer, it was forecast here recently by J. A. Rishel, Jr., special representative of Amana Refrigeration, Inc.

Reporting to the Electric Association of New Orleans, Rishel said that the next five years will see a doubling of the present freezer saturation of 15.1%.

Among the principal factors that will contribute to the accelerated growth of the freezer market in the United States, Rishel listed these:

- 1) The growing army of satisfied freezer-owning homemakers, who recommend freezers to their neighbors;
- 2) Population growth of 2½ million annually;
- 3) "Staggering" growth of frozen food industry, which now produces 4½ billion lbs. of frozen food annually.
- 4) Building of one million new homes each year.

Satisfaction of freezer owners was re-confirmed recently, the Amana official said, by an independent survey in 15 key cities. This survey revealed:

Four out of five decided to buy an upright before doing any shopping.

98% said they were satisfied with their upright freezers.

95% said they would buy the same size or larger.

87% who have owned both types, upright and chest, prefer an upright.

Recommendations from friends constituted the greatest single factor in their decisions to buy.

Rishel also told the group

Graybar, Denver Will Distribute Revco Line

DEERFIELD, Mich. — Graybar Electric Co., Denver, has been appointed a Revco distributor and franchised to sell the complete Revco line of food refrigeration equipment for the home, according to J. H. Overmyer, vice president and director of sales at Revco, Inc. located here.

Graybar, Denver, will cover the entire state of Colorado, nine counties in Wyoming, 11 in Nebraska, and four in New Mexico.

Paraguay Orders Jordon 2-Temperature Model For President

PHILADELPHIA — Frank Fogel, president of Jordon Refrigerator Co., reported recently that a Jordon model S-14/6, large two-temperature refrigerator-freezer, has been ordered for the residence of the President of Paraguay and a model SJ30-1M, a reach-in refrigerator with ice maker, for the Minister of Public Works in Afghanistan.

Also, Fogel announced that the University of North Carolina has ordered a Jordon model J-16 upright home freezer.

that freezer volume this year, which is running 23.5% ahead of 1954, will reach a record half a billion dollars by the end of 1955.

Until freezer saturation reaches 30 or 35%, he added, the food plan will continue to carry 55 or 60% of the industry's sales.

"In spite of the adverse publicity the food plan has received in many areas," Rishel pointed out, "it continues to grow in scope because it performs a real service for the consumer, and it can be sold honestly." He called the food plan industry's problems—"growing pains, such as have been experienced by any industry that has had such a meteoric growth."

NFFLI Will Meet In Cincinnati Sept. 18 to 21

ELIZABETHTOWN, Pa. — The National Frozen Food Locker Institute has announced that it will hold its national convention Sept. 18-21 in the Netherland Plaza hotel in Cincinnati.

Following the theme, "Prospecting for Profits," the convention has been planned in a western atmosphere, with cowbells to call meetings to order. Conventioneers are urged to come wearing 10-gal. hats.

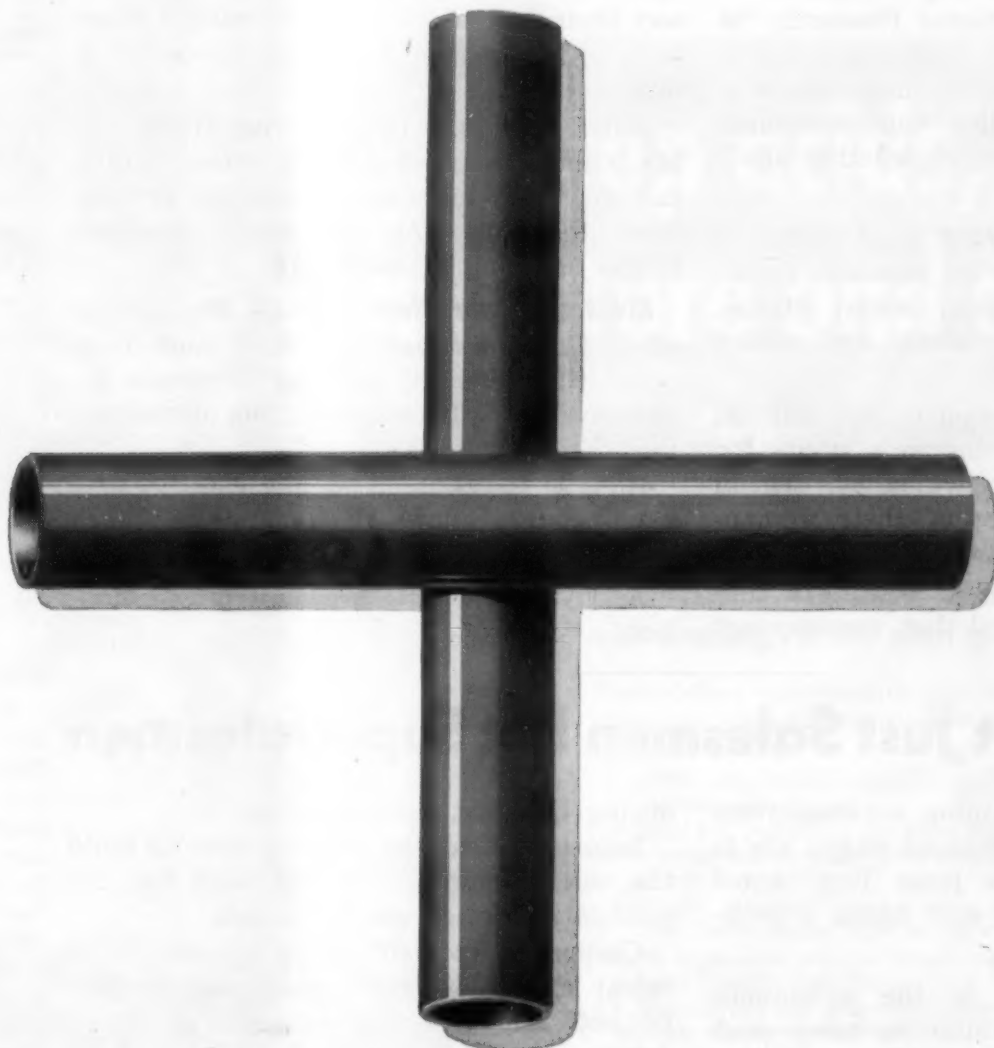
Two special sessions are planned on food plan operation. One will feature selling, processing, delivery, and financing of food. The other will cover selling, delivery, and financing of freezers.

Convention program will also



PONY LEADS WAY FOR AMANA FREEZER SALES: All members of Packers Food Plan, Amana freezer dealer in Milwaukee, these salesmen take turns transporting the pony into neighborhoods where there are many children. While the kids take turns riding the pony, Packers' salesmen take turns talking to Mom about the advantages of the Amana Plan. Results speak for themselves: Four hours of canvassing with the pony on one day recently produced three Amana freezer sales, 25 leads.

include discussion sessions on of meat cutting will be staged slaughtering, processing, smoking and curing, lockers, meat merchandising, and frozen food merchandising. Demonstrations liver the closing address.



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GM STEEL TUBING

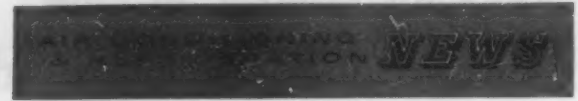
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VOLUME 75, No. 13, SERIAL No. 1,375, JULY 25, 1955

"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—Charles A. Dana.



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Editor:

Editor:

You've rung the bell again with that new format for the NEWS. It's easier to handle—still is obviously "the newspaper" of the industry—and the economy to the advertiser is obvious to anyone who has handled that end of it. In fact, many of the ads I placed in previous years could have been a greater percentage of the page coverage and thus more effective—at no more total cost of space and cuts combined.

Register one vote heartily in favor of your new setup.

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American Air Curtain Corp.
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Editor:

In the NEWS of May 16, in the second column of the front page, "Things To Come In '75," the first item is somewhat inaccurate.

We are now designing open front doors with an air curtain so it should read "Things To Come In 1957."

In the near future, we will be glad to give you more information. Up to now, our main business has been church air conditioning.

We also noted on Page 28, of the same issue (Dole), a picture of one of the churches we air conditioned.

ERNEST GYGAX

We have just read the article by L. H. Hirschbach titled "What Are We Going To Do About A-C Standards?"

In the brief commentary following the article, there was no mention of consulting engineers. It is possible that the industry feels that the consultant is also guilty of this breach of integrity?

Action such as recommended is second nature to this firm and a constant threat to our continued future if we fail to establish a high standard of design and owner satisfaction. It seems to us that the first line of action any buyer of air conditioning systems should take, is to contact a reputable consulting firm about his problem.

The buyers of air conditioning need education as to where their first line of action should be taken and when they are ready for an air conditioning system. Would any businessman contemplate building a building without the assistance of a competent architect? The answer is an emphatic "NO."

Should the air conditioning industry need the "clean-up" mentioned, then start with the first line of defense and get the primary action from the consultants. In most areas the contractors and sales representatives are more interested in the promotion of the equipment than in the proper design of a satisfactory air conditioning system.

JOHN S. MALAHY, JR.

They'll
Do It
Every
Time

by

Jimmy
Hatlo



Women Don't Buy Statistics, or Price— They Purchase Personal Happiness

"Shopping," notates Irving R. Gilman of the Institute for Motivational Research, "is an extremely emotional experience for a woman. Therefore, her feelings about a store and its personality can determine whether she'll shop there or whether she'll buy elsewhere."

He avers that **HER store** must satisfy a number of needs—such as personal fulfillment, freedom of action, social status, honest trust, encouragement, and added family-like relations.

Most often left unsatisfied, Mr. Gilman footnotes, are women shopper's needs for recognition of their individuality, special service, and reassurance of their womanhood.

In substantiation he cites studies of consumer needs which reveal that women react

against "assembly-line" products. They assert their individuality by shunning a store rack which displays 25 similar dresses in a line.

Self-service may be a growing trend, but Mr. Gilman sees danger for stores which fail to offer individual, *personal* service. How to solve this problem? Answer: proper training of salespeople.

Most customers fear bigness, Mr. Gilman adds. Hence, a department store must overcome that fear by making a person-to-person show of friendliness, thus putting its Best Foot Forward.

Bigness can be an asset, however, because a large store allows the shopper to "have anonymity while indulging in adventure."

Anonymity, we venture, is a prized emotion.

Needed: Not Just Salesmen But Supersalesmen

It's time to start training *supersalesmen* if automation and guaranteed wages are to pay off, according to Ross Roy, noted imagineering executive who heads a growing advertising agency.

"**The big challenge** in the automobile industry, and in any similar business—such as appliances and air conditioning—is that of rebuilding sales strength and gearing it to automation's multiplying strength of production," Ross Roy declares.

"When we double our production, we've got to find twice as many buyers as we've had before. That will require triple the normal sales effort."

Mr. Roy defines automation as automatic operation of production machinery. He points out that it will have as much effect on our next 10 years as mass production did

during the past three decades.

Industry should be starting now to build the sales techniques it will need for the automation era, Ross Roy insists.

Corporate acquisitions of proven sales talent should be a foremost management project. And, like other expansion programs (such as new machinery) it should be amortized over future years, he advises.

Roy admits that this job is "too big for advertising alone."

"**Advertising has been doing** a better job of driving customers into retail establishments than too many salesmen have been doing their job of selling," he adds, pregnantly.

"What all ambitious business firms need most today is more topnotch salesmen."

Who will say him nay?

Handy Way to Subscribe

To See the Industry In Action EVERY WEEK

Keep up-to-date on what's going on in your industry. You'll see action weekly in **AIR CONDITIONING & REFRIGERATION NEWS**. Covers latest news and gives you top how-to-do-it reports on commercial and residential air conditioning, commercial and home refrigeration: manufacturing, contracting, distributing, retailing, and servicing. Read the Industry's newspaper for profit every week. Only \$6.00 per year, 52 issues.

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Send the NEWS every week for one year.

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7-25-55

Catalog Covers Heating Element Replacements

—KEY NO. Q-740—

ADRIAN, Mich.—H. W. Tuttle & Co., manufacturer of electric heating elements, has recently released its new 1955 catalog and price list covering replacement heating elements for electrical appliances.

Replacement units for toasters, percolators, hot plates, flat irons, room heaters, ironers, clothes dryers, and various other appliances together with replacement spools and replacement coils for general use are included.

Fedders Bulletin Covers Remote Heating, Cooling

—KEY NO. Q-741—

TRENTON, N. J.—Fedders-Quigan Corp. has announced a new bulletin covering remote-type "Fedair" heating and cooling units.

Fedair remote-type air conditioning units are designed for multiple room installations in office buildings, apartment houses, homes, hospitals, schools, institutions, hotels, motels, and other installations using circulating hot and chilled water supplied from a remote source.

Bulletin HC-C2 gives capacities and dimensional data on standard sizes for floor mounted and semi-recessed installations. Models are also available for concealed installations.

Worthington Packaged Units Shown In Booklet

—KEY NO. Q-742—

HARRISON, N. J.—A new illustrated bulletin on packaged air conditioning applications in various fields has been issued by Worthington Corp.

Available in sizes up to 25 tons capacity, the Worthington packaged unit "is streamlined-styled, blends in with any decorative scheme, and as multi-packaged installations can efficiently cool multi-storied buildings," the company noted.

Exemplifying versatility of packaged unit applications, installations featured in the bulletin (#C-1100-B64) include: savings and loan associations, restaurants, optical manufacturers, soda shops, institutions, association headquarters, etc.

A-P 2-Color Bulletin Describes 'Trap-Dri'

—KEY NO. Q-743—

MILWAUKEE—In a six-page, two-color bulletin, the A-P Controls Corp. explains the six-point protection offered by A-P "Trap-Dri" filter driers.

The bulletin analyzes the causes of difficulty in refrigerating systems and discusses the Trap-Dri construction features and their effectiveness in combating the ravages of moisture, acids, and dirt.

Comparative data, charts, specifications, and individual dimensions are furnished on each of the 20 different Trap-Dri sizes.

Chart Special Features Of Gas Range Models

—KEY NO. Q-744—

NEW YORK CITY—The American Gas Association has released the 1955 edition of its "Special Features of Current Gas Ranges," a chart of recent gas range developments currently being produced by 40 different manufacturers.

The chart groups the ranges' special features in eight categories: type, size, color other than white, top section, broiler section, oven section, recessed range sections, and additional features.

A simple code indicates special features pertaining to each brand name. The 1955 report includes a color supplement chart listing additional available colors and finishes of gas ranges and recessed range sections. Names and addresses of manufacturers are listed.

Copies at the following prices: 10 cents, 1 to 9 copies; 8 cents, 10 to 99 copies; 6 cents, 100 or more copies.

New 'Humidity Engineer' Available

—KEY NO. Q-745—

TOLEDO—A new issue of "The Humidity Engineer" has been released by Surface Combustion Corp.

One article describes how air conditioning aids the manufacture of compressor assemblies. Other articles present the factors involved in the air conditioning of hospitals and industrial research laboratories.

Copies of "The Humidity Engineer," Vol. 5, No. 1, are available on request from Kathabar Div. of Surface Combustion Corp. here.

Graymills Issues Catalog Covering Pump Line

—KEY NO. Q-746—

CHICAGO—Graymills Corp., manufacturer of coolant pumps, has issued a new, complete catalog on coolant, circulating, and agitating pumps.

It is said to be a comprehensive catalog designed for easy reading.

Maurey Catalog Describes V-Belts

—KEY NO. Q-747—

CHICAGO—The complete line of Maurey "Mor-Grip" fractional horsepower and heavy-duty multiple V-drive belts are described in a new three-color, 24-page catalog just released by Maurey Mfg. Corp. here.

The multiple line consists of super, steel cable, open end, and hexagon V-belts as well as V-link belting.

Madden Issues New Illustrated Catalog

—KEY NO. Q-748—

AURORA, Ill.—Madden Brass Products Co. here has published a new enlarged illustrated catalog (R-655) of its complete line of refrigeration and air conditioning accessories.

Several new valves, swivel tees, charging lines, and flare fittings are featured, the company said.

In addition to the regular line of flare tube fittings, many new

fittings items are introduced for the first time. Also featured is a new hermetic 4-in-1 port valve that pierces four tube sizes.

Cordley-Hayes Bulletin Shows Water Cooler

—KEY NO. Q-749—

NEW YORK CITY—A four-page, two-color bulletin offered by Cordley & Hayes describes and illustrates the company's new line of electric water coolers.

Features of these 1955 models include dual hand and foot controls, thermostatic protection for the storage system, thermostatic control of water temperature, and up to a 30% increase in water capacity over former models.

Twelve photographs in the bulletin illustrate five bottle and bubbler type coolers, as well as such cooler accessories as glass fillers and remote wall fountains.

A cooler selection table lists 14 models of bubbler, bottle, and remote coolers. Capacities and special features of each model are shown, along with a formula for determining the size needed.



Stop acids, moisture and dirt

...and you stop valve trouble

Model 410 TRAP-DRI assures a 100% clean system — combines depth filtering with amazing PA 400 silica gel

Never before such positive protection against corrosive acids and moisture in refrigeration systems!

- 100% acid removal — positive protection against corrosive action.
- New PA 400 silica gel provides 98% greater moisture adsorption capacity than silica gels previously available.
- "Depth filtration" system offers more filtering area than any other drier on the market.
- No appreciable pressure drop — less than 1 lb. at rated Trap-Dri capacity.
- Moisture and acid removed by *physical adsorption* rather than by chemical action.
- PA 400 reduces moisture level of Freon 12 to less than 10 parts per million at temperatures as high as 160° F.
- Hermetically factory-sealed against moisture.
- Listed by Underwriters Laboratories.

BEST BUY NO. 1

Trap-Dri is available in 20 models — flare and solder connections — for systems from 1/3 to 12 tons.

Model 408 TRAP-IT traps impurities as small as 5 microns

Here's the best performance insurance any expansion or solenoid valve ever had.

- Traps all impurities such as scale, gummy deposits, and particles of solder as small as 5 microns.
- Has many times the filtering and absorbing area of a conventional strainer.
- Contains nothing which can dissolve, damage or enter the refrigeration system.
- Protects valves against sticking, slow action.
- Underwriters listed for LP-Gas and refrigerants.

BEST BUY NO. 2

Model 408 Trap-It is available in 3 sizes. Connections are 1/4", 3/8", 1/2", and 3/4" SAE.

IF YOU MAKE, INSTALL OR SERVICE REFRIGERATION SYSTEMS — YOU NEED TRAP-DRI AND TRAP-IT

DEPENDABLE Controls For Air • Liquids • Gases • Refrigerants

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2460 N. 32nd Street, MILWAUKEE, Wisconsin
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Fast Delivery COILSTOP QUALITY
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CONDENSER

WATER STEAM

1 TO 50 TONS

2 TO 8 ROWS

TubenfinCOIL
CO.

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SLANTS on Service

"Slants on Service" is a handy "package" devised by the NEWS for its busy readers.

Flux Can Show If Surface Is Clean

If when preparing metals for silver brazing you see that the flux doesn't wet the surfaces evenly, you'd probably better start over by cleaning and degreasing the metals first.

If the flux doesn't wet the surface there is little chance that the brazing alloy will do so. Brazing under these conditions will result in a less than perfect bond.

Flux helps the molten alloy wet metals by reducing surface tension and by removing and inhibiting oxidation, points out Handy & Harman, manufacturer of silver brazing alloys and fluxes.

Flux is compounded to remove a certain amount of metal oxides, and it contains a wetting agent to help break up thin films of oil commonly found on mill-supplied materials. When accumulations of dirt, grease, oil, and oxides become excessive, they can retard wetting by both flux and alloy. If the flux doesn't adhere to the surface evenly, the brazing alloy probably won't either, the manufacturer cautions.

To clean the surfaces Handy & Harman suggests degreasing in a vapor degreaser or suitable solvent. Then remove any oxide by pickling or by touching the piece to an abrasive belt or wheel. Don't touch the cleaned surfaces because a greasy finger print will cause trouble too.

Apartment Bldg. Will Get Radiant Heating, Cooling

CHICAGO — Construction is scheduled to start in August on Chicago's first radiant cooled and heated building.

The 12-story structure will contain 24 cooperatively owned five-room apartments. Coils in the ceiling will serve for both heating and cooling.

Trane Transfers Hackl to La Crosse

LA CROSSE, Wis. — The Trane Co. has announced the appointment of A. J. Hackl, manager of the Dallas sales office since 1953, to the refrigeration department at La Crosse.

Hackl will direct sales of Trane's self-contained air conditioners, which are available in sizes from three to 20 tons. His appointment was effective July 15.

Pennsylvania Salt Moves Headquarters

PHILADELPHIA — Executive offices and headquarters for operating divisions of the Pennsylvania Salt Mfg. Co. were moved July 1 to 3 Penn Center Plaza here, the company has announced. Telephone number remains Locust 4-4700.

Famco Breaks Ground Tenney Names Ridgeway Trane Finishes For Plant Addition To Cover 5 States Mid-Year Training

LOUISVILLE, Ky. — Ground was broken recently for an addition to the plant of Famco, Inc., a wholly-owned subsidiary of American Air Filter Co., Inc., which will increase the manufacturing area of the plant by 60%.

Famco manufactures glass fiber filters for furnaces and air conditioning units and continuous roll media for automatic filters in the present facilities on Strawberry Lane in South Louisville.

Expansion of the plant will permit manufacturing of additional types of glass fibers for decorative uses and plastic reinforcement. This development has been tested over the past two years and is now ready for manufacturing and marketing.

UNION, N. J. — Ridgeway Engineering Associates, with offices in Chicago and Indianapolis, has been appointed by Tenney Engineering, Inc., to handle sales of specialized environmental test equipment and sub-arctic low temperature industrial cabinets.

Ridgeway will cover Illinois, Indiana, Iowa, Wisconsin, and part of Kentucky.

Berlin Chapman Elects J. C. Miller President

BERLIN, Wis. — The Berlin Chapman Co. here, manufacturer of food processing equipment, has announced the election of John C. Miller as president and chief executive officer.

LA CROSSE, Wis. — The Trane Co. has announced the recent completion of its first mid-year student training program.

The five-month course, conducted at the company's home office here, was scheduled twice this year to keep up the increased demand for sales coverage brought about by expanding Trane product lines, it was stated.

"The Trane student training program was developed 30 years ago," the firm pointed out. "While the class was originally used primarily to train field sales engineers, in recent years a substantial percentage of the graduates have been added to the home office sales staff."

"Students get a thorough

background in air conditioning, heating, ventilating, heat transfer, and refrigeration through lectures, design projects, films, and field trips."

Tampa Contractors Assn. Will Widen Territory

TAMPA, Fla. — The West Coast Air Conditioning and Refrigeration Contractors Association, which until recently has consisted of Tampa firms only, is expanding to include other contractors on the Florida West Coast, Charles Caccamo, president, has announced. Several firms from the Sarasota-Bradenton area have become members of the association. It is expected that several Pinellas County contractors will join.

The group is associated with the National Refrigeration and Air Conditioning Contractors Association.

Two Powerful New Sales A New Brunner-Metic Warranty... with

If you MANUFACTURE... or SELL... or SERVICE
it's the most simple... most complete... most
satisfactory WARRANTY PROGRAM in the industry

Here is a Semi-Hermetic WARRANTY PROGRAM that really protects and serves the customer—yet is easily workable and profitable to the trade!

BRIEFLY, HERE'S HOW IT WORKS: 3 Cost of Brunner-Metic Five Year Protection Policy is based upon H.P. of unit involved.

1 Standard One-Year Warranty — Every Brunner-Metic customer is automatically protected by the Brunner-Metic "STANDARD ONE-YEAR WARRANTY." This warranty covers the complete unit and warrants any part of the unit against defects in material or workmanship occurring one year from installation date. No action by the manufacturer, customer or his agent is necessary to place the STANDARD ONE-YEAR WARRANTY in effect.

2 Five Year Protection Policy — When a customer or his service agent applies for and purchases Brunner-Metic Five Year Protection Policy, then complete unit is protected for first year exactly as with Standard One-Year Warranty — and motor-compressor part is protected for four additional years.

4 Customer, through his service agent, contacts his nearest Brunner-Metic wholesaler when replacement or repair of parts in warranty is necessary. Wholesaler will accept the part and sell new replacement part, from stock, at Exchange Price, plus freight. No red tape — no waiting for parts to come from factory!

5 If part is found defective under terms of warranty, Brunner refunds full credit and freight allowance for part exchanged to wholesaler — who credits service representative. Wholesaler is compensated by Brunner under terms of Warranty Agreement. Result: free replacement at Wholesaler's place of business.

FOR COMPLETE DETAILS, SEND FOR YOUR FREE COPY OF NEW BOOKLET

WHAT THIS BRUNNER-METIC WARRANTY MEANS:

TO THE CUSTOMER:

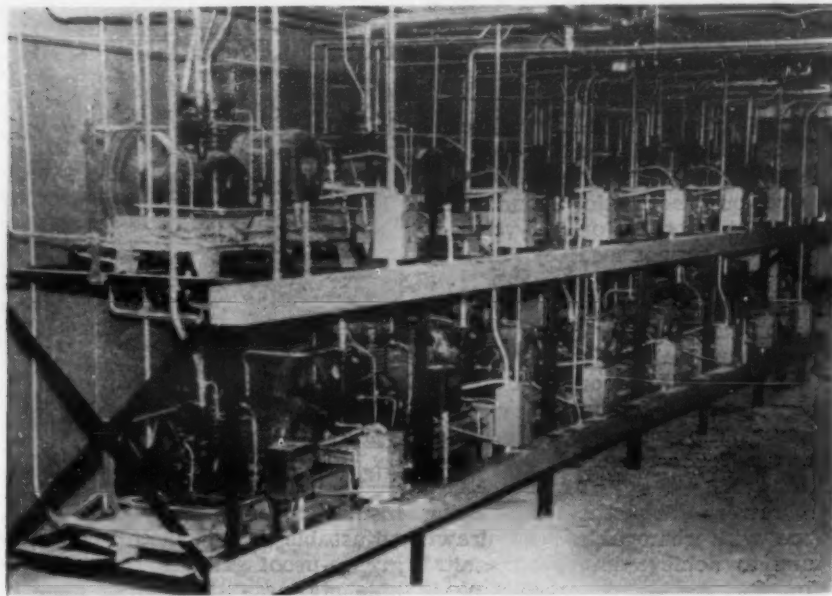
FASTER SERVICE on replacement parts covered by warranty — regardless of origin of purchase of unit, nearest Brunner-Metic Wholesaler handles warranty transaction... F.O.B. his location. SAVES MONEY: customer saves on Brunner policy of paying freight both ways... on outgoing defective part and incoming replacement to wholesaler.

TO THE MANUFACTURER:

Greater customer confidence that leads to greater sales — because Brunner-Metic unit is backed by a sound, workable warranty. The Brunner-Metic unit in your product becomes a vital sales asset! If you carry your own warranty you can still utilize Brunner-Metic's nationwide warranty exchange program.

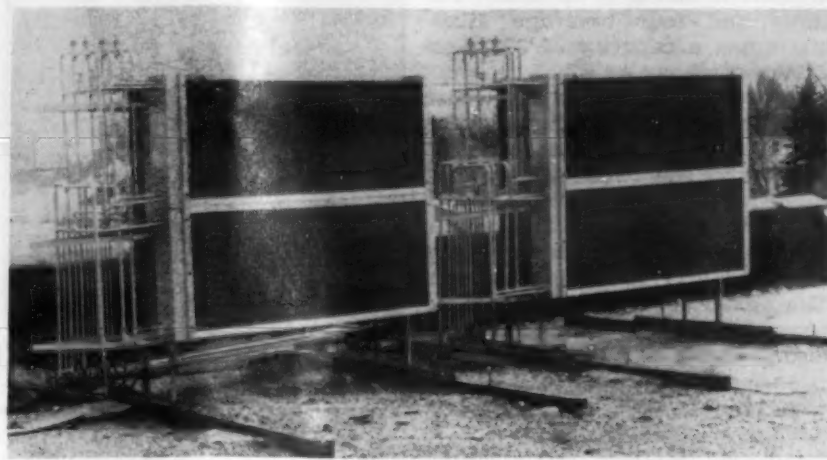
TO THE SERVICE REPRESENTATIVE:

The Brunner-Metic Warranty means satisfied customers — because you can give them the fast action they want when replacements in warranty are justified! Less work for you, too—you deal only with nearby Brunner-Metic wholesaler — not direct with factory!



COMPRESSOR ROOM at Trimborn's Market showing 14 Copeland compressors connected to Kramer Trenton Unicon air-cooled condenser. Open-type cases served by these compressors were made by Tyler Fixture Corp. and the walk-in boxes are the product of Masterfreeze Corp.

Supermarket Solves Installation Problem by Operating 14 Compressors Off Roof-Mounted, Air-Cooled Condenser



ROOF-MOUNTED Kramer Trenton model BD4001 Unicon air-cooled condenser serves 14 separate refrigeration systems at Trimborn's Market. The condenser is equipped with a patented Kramer "Winterstat" to assure normal head pressures even when temperatures drop to -20° F.

HALES CORNER, Wis.—Faced with poor quality water available, Dick and Clem Trimborn, operators of the new Trimborn Supermarket here, solved their refrigerant cooling problem by hooking up all 14 of their compressors to a single "Unicon" air-cooled condenser.

The model BD4001 Kramer Trenton Unicon was mounted on the roof and equipped with a patented Kramer "Winterstat" to assure normal head pressures even when the temperature might drop to -20° F., as it occasionally does in this Milwaukee suburb.

Refrigerant lines were run to the compressor room where 14 Copeland open-type units equipped with Kramer Trenton mufflers are double-tiered. The compressors range in capacity from 1 to 3 hp. and maintain refrigerant temperatures ranging from 30° F. to -25° F.

Holding -25° F. refrigerant temperature are a 2-hp. compressor on an open ice cream case, a 1½-hp. unit on an open frozen food case, a 3-hp. unit on a frozen food case, and a 3-hp. unit on a frozen food storage walk-in.

Plus 10° F. is held in an open dairy case by a 1-hp. compressor, a walk-in cooler using Kramer "Curvettes" by a 1½-hp. compressor, an open produce case by a 2-hp. unit, and an open meat case by a 3-hp. compressor.

Plus 15° F. is maintained in an open dairy case by a 2-hp. unit, in an open meat case by a 1½-hp. unit, and in a walk-in cooler by a 2-hp. unit.

A 2-hp. unit holds 20° F. in a third walk-in cooler, while a 3-hp. unit holds 30° F. refrigerant temperature in the meat cutting room.

All open-type cases are manufactured by Tyler Refrigeration Corp. and are finished in pastel shades to blend with the section of the market in which they are located.

The walk-in boxes were made by the Masterfreeze Corp. The freezer box is equipped with a Kramer Thermobank automatic hot gas defrost system.

Ebco Mfg. Appoints John C. Boeshaar, Thomas J. Spence

COLUMBUS, Ohio — Ebco Mfg. Co.'s appointments of John C. Boeshaar as district sales manager and Thomas J. Spence, Jr. to succeed him as advertising manager have been announced by A. R. Benua, president.

Boeshaar has been advertising manager since 1950. In his new post, he will supervise sales activities in New York, New England, parts of New Jersey, and Pennsylvania.

Spence comes to Ebco from Cleveland where he was account executive with John Duffy Co., an advertising agency, and director of sales publications and publicity for Willard Storage Battery Co.

Features by parts depots across the nation

BRUNNER
SINCE 1906

The Brunner-Metic Warranty is backed and serviced by these Progressive Refrigeration Wholesalers

| | | | |
|---|--|--|---|
| ALABAMA BIRMINGHAM Budlock Refrig. Sup. Co. MONTGOMERY...Nolin-McInnis Co. | INDIANA EVANSVILLE Budlock Refrig. Sup. Co. INDIANAPOLIS...Duncan Supply Co. MISHAWAKA...Valley Equipment Co. RICHMOND...Gennett & Sons, Inc. | NEBRASKA LINCOLN...Wickham Sup. Co., Inc. OMAHA...Interstate Mach. & Sup. Co. | HARRISBURG ...Resco, Inc. PHILADELPHIA...Acar Supply Co. PITTSBURGH...Orr, Inc. PITTSBURGH...Proie Brothers, Inc. READING...Larson Supply Co. SCRANTON...Central Service Supply Co. WILKES BARRE...Radio Service Co. |
| ARIZONA PHOENIX...Authorized Sup. Co. PHOENIX...State Equip. & Sup., Inc. | IOWA CEDAR RAPIDS...Thermal Co., Inc. DES MOINES...Thermal Co., Inc. | NEVADA LAS VEGAS L. B. Marsh Allied Refrig. RENO...Acme Supply & Equip. Co. | RHODE ISLAND PROVIDENCE R. I. Refrig. Supply Co. |
| CALIFORNIA EAST LOS ANGELES...Arrow-Risco, Inc. EL CENTRO...Allied Refrig. Sup., Inc. FRESNO...California Refrigerator Co. GLENDALE...Arrow-Risco, Inc. LONG BEACH L. B. Marsh Allied Refrigeration Co. LOS ANGELES...Arrow-Risco, Inc. LOS ANGELES...Brea Supply Co. LOS ANGELES...Thermal Products, Inc. OAKLAND...Calif. Refrigerator Co. SAN BERNARDINO L. B. Marsh Allied Refrigeration SAN DIEGO...Allied Refrig. Sup., Inc. SAN FRANCISCO...California Refrig. Co. SAN GABRIEL...Arrow-Risco, Inc. | KANSAS TOPEKA...Refrigeration Equip. Co. WICHITA...Refrigeration Equip. Co. | NEW JERSEY AVON-BY-THE-SEA Wallwork Bros., Inc. NEWARK...Tesco Distributors NEWARK...Wallwork Brothers, Inc. NEW BRUNSWICK...Tesco Distributors TRENTON...Jaegers Sales & Service UNION CITY...Tesco Distributors | SOUTH CAROLINA COLUMBIA...H. V. Dick & Company COLUMBIA...Noland Co., Inc. GREENVILLE...Henry V. Dick & Co. |
| COLORADO DENVER...Thermo Supply Co. | KENTUCKY LEXINGTON...Brock-McVey Co. LOUISVILLE...Mill Industrial Sup., Inc. | NEW YORK ALBANY...R. D. Marshall & Co., Inc. BROOKLYN Excel Refrig. Supplies, Inc. BUFFALO W. A. Case & Son Mfg. Co. BUFFALO...Jordan Supply Company ELMIRA...Brady Supply Company MOUNT VERNON...Eastern Supply Co. NEW YORK...Aetna Supply Company NEW YORK...Albert Hofeld, Inc. NEW YORK Reese & Long Refrig. Prod., Inc. NEW YORK Paramount Elec. Sup. Co. ROCHESTER...Ontario Metal Sup., Inc. SYRACUSE Empire Refrig. Sup. Co., Inc. SYRACUSE W. A. Case & Son Mfg. Co. UTICA...Vaeth Electric Company | SOUTH DAKOTA SIOUX FALLS...Thermal Co., Inc. |
| CONNECTICUT HARTFORD...N. W. Day Sup. Co. HARTFORD...Joseph Simons Co. NEW HAVEN...Resco, Inc. | LOUISIANA BATON ROUGE...Acme Refrigeration LAFAYETTE Cooling & Heating Wholesalers LAKE CHARLES...Temtrol Supply, Inc. NEW ORLEANS Enochs Sales Co., Inc. SHREVEPORT Standard Brass & Mfg. Co. | NEW YORK ALBANY...R. D. Marshall & Co., Inc. BROOKLYN Excel Refrig. Supplies, Inc. BUFFALO W. A. Case & Son Mfg. Co. BUFFALO...Jordan Supply Company ELMIRA...Brady Supply Company MOUNT VERNON...Eastern Supply Co. NEW YORK...Aetna Supply Company NEW YORK...Albert Hofeld, Inc. NEW YORK Reese & Long Refrig. Prod., Inc. NEW YORK Paramount Elec. Sup. Co. ROCHESTER...Ontario Metal Sup., Inc. SYRACUSE Empire Refrig. Sup. Co., Inc. SYRACUSE W. A. Case & Son Mfg. Co. UTICA...Vaeth Electric Company | TENNESSEE CHATTANOOGA...Peglar's, Inc. MEMPHIS...R. H. Spangler Co., Inc. NASHVILLE...J. B. Thomas Company |
| DISTRICT OF COLUMBIA DISTRICT OF COLUMBIA Refrigeration Supply Co., Inc. | MAINE PORTLAND...A. E. Borden Co., Inc. PORTLAND...Joseph Simons Co. | NEW YORK ALBANY...R. D. Marshall & Co., Inc. BROOKLYN Excel Refrig. Supplies, Inc. BUFFALO W. A. Case & Son Mfg. Co. BUFFALO...Jordan Supply Company ELMIRA...Brady Supply Company MOUNT VERNON...Eastern Supply Co. NEW YORK...Aetna Supply Company NEW YORK...Albert Hofeld, Inc. NEW YORK Reese & Long Refrig. Prod., Inc. NEW YORK Paramount Elec. Sup. Co. ROCHESTER...Ontario Metal Sup., Inc. SYRACUSE Empire Refrig. Sup. Co., Inc. SYRACUSE W. A. Case & Son Mfg. Co. UTICA...Vaeth Electric Company | TEXAS ABILENE...C & H Distributing Co. CORPUS CHRISTI S. Texas Refrig. Supply Co. DALLAS Barbeck Refrig. Sup. Co., Inc. DALLAS...Climate Supply Co. EL PASO M & M Refrig. & Elec. Sup. FORT WORTH Texas Refrig. Supply Co. HARLINGEN...United Supply Co. HOUSTON...Johnson Supply Co. HOUSTON...Lingo, Company, Inc. HOUSTON Standard Brass & Mfg. Co. LUBBOCK R & R Refrig. Corporation SAN ANTONIO...United Supply Co. SAN ANTONIO...Westbrook Company TYLER...Amstan Supply Division WACO...Texas Refrig. Supply Co. |
| FLORIDA JACKSONVILLE...Hajoca Corporation JACKSONVILLE...Refrig. Supply Co. MIAMI...Bowen Refrig. Sup., Inc. ORLANDO...R & R Supply Co., Inc. PENSACOLA...Cooling & Heating Sup. TAMPA...Hajoca Corporation TAMPA Leo S. Bosarge Co. of Tampa, Inc. | MARYLAND BALTIMORE...Roche & Hull, Inc. SALISBURY...Roche & Hull, Inc. | NEW YORK ALBANY...R. D. Marshall & Co., Inc. BROOKLYN Excel Refrig. Supplies, Inc. BUFFALO W. A. Case & Son Mfg. Co. BUFFALO...Jordan Supply Company ELMIRA...Brady Supply Company MOUNT VERNON...Eastern Supply Co. NEW YORK...Aetna Supply Company NEW YORK...Albert Hofeld, Inc. NEW YORK Reese & Long Refrig. Prod., Inc. NEW YORK Paramount Elec. Sup. Co. ROCHESTER...Ontario Metal Sup., Inc. SYRACUSE Empire Refrig. Sup. Co., Inc. SYRACUSE W. A. Case & Son Mfg. Co. UTICA...Vaeth Electric Company | UTAH SALT LAKE CITY Commercial Dist. Co. |
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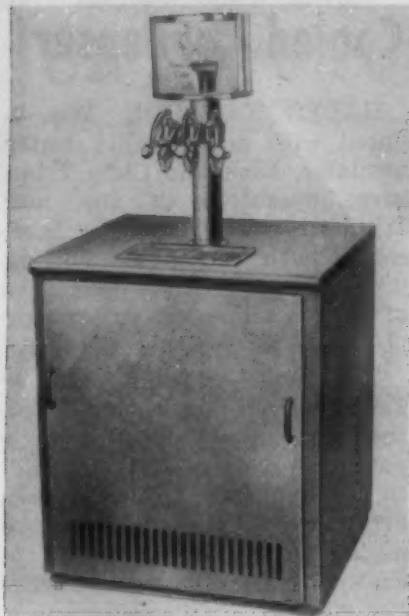
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Soft Drink Dispenser Has 2 or 4 Flavors



KEY NO. E-740

BROOKLYN—A small automatic soft drink mixing dispenser has recently been introduced by the Dunhill Soda Fountain Corp.

Dunhill's line of "Mixomatic" soft drink dispensers are completely self-contained and are available with two to four Mixomatic arms to serve two to four carbonated flavored beverages.

The unit is engineered to supply a constant carbonated water pressure and automatically mix with just the right amount of syrup.

The beverage arms are mounted to a common dispensing tower that is internally refrigerated to keep both syrup and soda correctly chilled right up to the point of the filling of the glass.

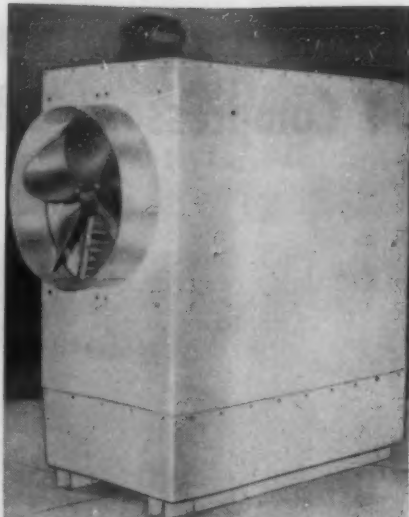
A revolving transparent display is mounted on top of the dispensing tower and slowly revolves serving as a selling aid.

The three and four beverage Mixomatic has a 1/2-hp. condensing unit and the two beverage Mixomatic has a 1/4-hp. unit. The three and four beverage Mixomatic has a capacity of 300 6-oz. drinks per hour.

By simply changing the cooler from 15 g.p.h. to 25 g.p.h., the drinks can be increased to 380 per hour. The two beverage unit produces 150 drinks per hour.

The standard Dunhill Mixomatic is made with a stainless steel top and stainless steel drip trough. The exterior is double baked enamel. Dunhill Mixomatics are also available in all stainless steel.

A Dunhill Mixomatic does not require any water pressure for mixing up flavors. The unit is completely sanitary and equipped with automatic self-flushing syrup valves and nozzles. It will fit in any corner or stand by itself. Remote installations can be supplied.



Fiberglass Cooling Tower Resists Corrosion

KEY NO. E-742

OTTAWA, Kan.—A new Duro-Lite glass fiber cooling tower has been introduced by Baldwin-Ward Mfg. Co. as "the answer to the rust, corrosion, and deterioration problems of cooling towers."

According to the company the towers weigh about one third that of steel towers. Two men can handle Duro-Lite towers up to 10-ton size.

There are no seams or welded joints to leak. Towers are rust-proof and fire and acid resistant. Standard enamel-like finish is white, however, permanent colors can be impregnated at time of molding, the manufacturer states.

Duro-Lite Tower fillings are California redwood. The fans are deep-pitched for maximum draft at low speed. The fan housing is equipped with galvanized steel-mesh safety guard, which can be removed.

New Nozzle Cap Makes Identification Easy

KEY NO. E-741

NEWARK, N. J.—Wm. Steinen Mfg. Co. here, maker of draft regulators, oil burner nozzles, and other oil heating accessories, has announced the development of a new nozzle cap.

The company claims this innovation will make possible quick, easy identification of the nozzle desired. For solid cone spray nozzles, a blue cap with white markings will be employed on the plastic container. For hollow cone spray nozzles, a red cap with white markings will be used.

Food Unit Features Air-Cooled Condensing Unit

KEY NO. E-743

CHICAGO—A new self-contained combination cold food unit featuring a self-contained 1/2-hp. air-cooled hermetic condensing unit that operates on 120-volt a.c. has been announced by Stanley Knight Corp. here.

The unit's length is 44 1/2 in.; depth, 31 1/2 in.; working height, 34 in.; over-all height, 41 in.

A "fingertip" door latch opens the refrigerated storage compartment. The unit features door shelves for convenient, accessible storage.

Drawers are the self-closing type with removable deep drawn pans to achieve improved sanitation.

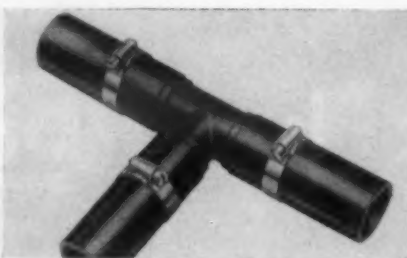
"Large radius corners within the refrigerated storage area are easy to clean, and the bottom is pitched for quick drainage," the company said. "Top and back-splash are of heavy 16-gauge one-piece stainless steel."

"The unit has pure corkboard



insulation, automatic door light, adjustable wire shelf, neoprene grease-proof gaskets, interchangeable stainless steel salad pans in 12-in. by 20-in. opening, and a removable 1 1/2-in. laminated maple cutting board.

"The deep-drawn waste container is quickly removable for emptying, and a duplex three-prong electric outlet is installed in the back-splash."



New Series of Clamps For Flexible Plastic Pipe

KEY NO. E-744

CHICAGO—Witteck Mfg. Co. has announced a new series of Sure-Tite stainless steel clamps for making connections on flexible plastic pipe.

They are available in standard sizes to fit all sizes of pipe.

Clamp consists of a patented, one-piece stainless steel housing permanently attached to a stainless steel clamp band. This housing supports a worm-drive screw which engages with the band. After the band is positioned it is tightened with a screwdriver.

Glass Doors Convert Open Case to Closed

KEY NO. E-745

BALLY, Pa.—Heavy-duty sliding glass doors made by the Bally Case & Cooler Co. now make it possible to convert the company's open style "Servicold 96" refrigerated display case to a closed-type vegetable case.

The doors are made of 1/4-in. thick "Herculite" polished plate glass which has been tempered to make it exceptionally strong and shockproof, the company said.

Use of the new doors reduces operating costs while at the same time giving customers 100% visibility, it added.

Since the glass in the doors is so much stronger than ordinary glass, it can be used as a sliding door without any metal binding on the edges.

Its strength also minimizes chances of breaking doors when they are removed during busy store hours.



4 Reasons why restaurant owners prefer Beverage-Air WATER COOLERS



1 Large Capacity

Uses principle of cooling incoming water BEFORE it reaches storage tank and mixes with reserve...

- assures ample cold water for peak periods.
- economical to operate.



2 Handsome Styling

All stainless steel cabinet or stainless steel top with tan hamerene baked-on enameled sides. Blends well with decor... easy to keep clean and sparkling.



3 Handy Glassware Storage

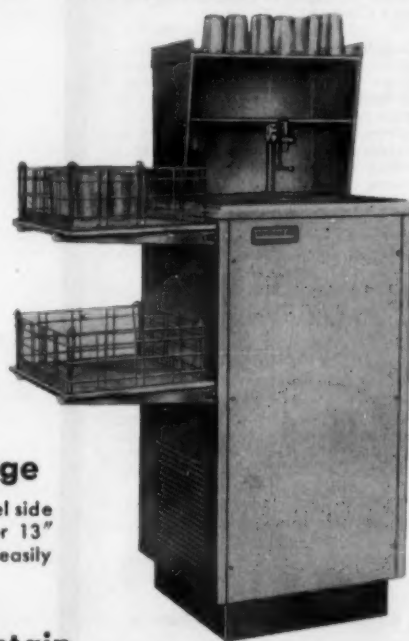
Stainless steel shelving on top; stainless steel side shelves accommodate 14" x 18" trays or 13" x 19" wire baskets. Side shelves are easily adjustable.



4 Easy to install and maintain

All connections, plumbing and electrical, are easily accessible for servicing or checking by removing front panel. Water cooled condensers are cleanable type for longer life and top efficiency.

Beverage-Air Water Cooler also features optional accessories that



make it a one stop service facility for cafeterias and restaurants! 32 models to choose from with capacities ranging from 20 to 110 gallons per hour!

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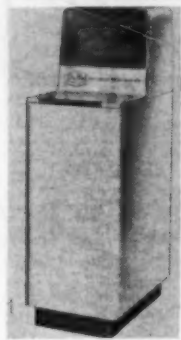
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Water Softener Electrically Controlled

KEY NO. E-746

RIVER GROVE, Ill.—An electrically controlled automatic water softener with an electric timer which automatically controls the softening and regeneration cycles has been introduced by Du-Wal, Inc. here.



The softener is styled to fit in with other appliances in the home kitchen, utility room, or basement. It is finished

in white porcelain enamel with chrome trim.

Tanks are lined inside and out with two coats of porcelain making them impervious to any corrosive action. Brass and copper fittings have plastic insulation between unlike metals to prevent electrolytic corrosion.

Dowex high capacity resin by Dow Chemical Co. is used for lifetime softening action. Flow rate of the unit is 10 g.p.m. and 24,000 grains of hardness can be absorbed between regenerations.

The new Du-Wal softener is on permanent display at 1124 Merchandise Mart, Chicago. It is made exclusively for Du-Wal, Inc. of River Grove, Ill. by Globe American Corp. of Kokomo, Ind.

The unit is designed to retail at \$450, installation included.

Adjustable Casters Level Room Units

KEY NO. E-747

PHILADELPHIA—Development of a new line of adjustable casters designed to compensate for uneven floor surfaces by providing stability as well as portability for home room air conditioners has been announced by the Adjustable Caster Co.



Available in a wide range of models for installation in metal, tubing, wood, or angle iron, the "Scruswiv" adjustable wheel type casters are readily leveled to correct high and low spots that occur in floors. This feature permits on-the-spot finger adjustment without use of tools.

Locked device prevents turning of the adjusting nut when subjected to vibrations such as portable room air conditioners or washing machines. Spline threaded pintle provides the slip-proof locking of the pintle once the adjustment has been made.

Scruswiv casters, according to the announcement, are available both to manufacturers for use on original equipment or at retail.

Nor-Lake Offers Stainless Exteriors

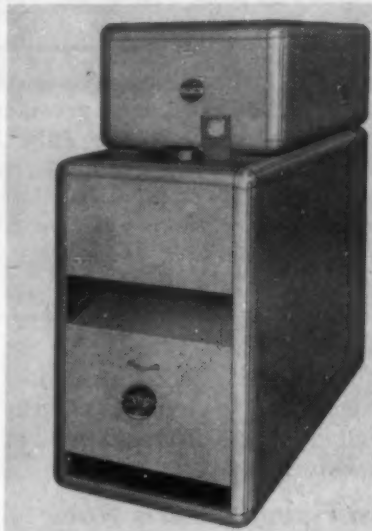
KEY NO. E-748

HUDSON, Wis.—Stainless steel exteriors are now available from stock on all Nor-Lake refrigeration products except walk-in coolers and deluxe upright freezers, Nor-Lake, Inc. announced recently.

A total of 26 models in the Nor-Lake line of dry bottle coolers, sliding door beverage coolers, direct-draw taps, ice cube makers, and basement tap boxes are affected by the change.

They were previously available in standard baked enamel finish only, while now they are available in either standard baked enamel over cold-rolled steel or stainless steel.

Century Home Units Offer Quietness, Compactness



KEY NO. E-749

CEDAR RAPIDS, Iowa—Quietness and compactness are features claimed for air and water-cooled remote-compressor home air conditioners being introduced by Century Engineering Corp. here.

In addition to the remote com-

pressor, air-cooled models have a separate remote condenser.

"Only the silent cooling coil unit sits atop the forced air furnace unit, which can be any of most existing gas or oil basement, utility, or horizontal models," the company said. "The condenser and/or compressor units are remote, in another basement room or even out of doors."

Referring to the air-cooled models, the company pointed out that the Century condenser "can be located outdoors for advantages of silence and abundant cooling air, and the compressor is installed indoors to eliminate expensive depreciation from weather."

The company said space saving "is achieved by separating the component units and by compact design of the cabinets, which are placed wherever most convenient for silence and use of marginal space. The cooling coil unit is easily installed and uses the same ducts, thermostat, blower, and filters as the heating system."

Selma Introduces Hydraulic Trailer

KEY NO. E-7410

SELMA, Calif.—Selma Trailer & Mfg. Co. here is marketing an all-steel hydraulic trailer that can be lowered to the ground "for easy one-man loading."

The Schramm "Wonderlift" trailer can be used in the transportation, demonstration, selling, and servicing of heavy equipment of all kinds, including appliances and air conditioning and refrigeration equipment, according to Carl W. Ruegg, general manager of the firm.

Ruegg said "the simple turn of a valve" lowers the trailer to the ground.

"The bed is raised and locked in running position by operating the manual level on the hydraulic pump, or the bed can be raised still higher for loading or unloading at curbs or docks," he explained.

A third wheel in the tongue acts as a fulcrum so that the hitch raises as the body is lowered and vice versa.



"A fully-loaded trailer can actually be put on or taken off the towing vehicle with no more effort than turning a valve and operating the hydraulic pump lever arm," it was stated. "With the third wheel, the trailer and load can be pushed around as easily as a warehouse truck."

Ruegg claimed that one man using a Wonderlift trailer can do the work of two or more.

The trailer is offered in ½-ton and 1-ton-capacity models. They are priced at \$345 and \$495, respectively.

EXCLUSIVE-PATENTED* HOT GAS DEFROSTER

LARKIN FROST-O-TROL

Hailed since 1948 as the most efficient automatic hot gas defroster ever devised, the patented Larkin Frost-o-Trol has a specially designed, factory-installed metering orifice which controls the amount of hot gas entering the evaporator, prevents any slug back, and assures rapid defrosting.

Frost-o-Trol is used only in Larkin low temperature Humi-Temps, the low side unit that takes the toughest cooling jobs in stride—from minus 32°F. sharp freeze rooms to 30°F. meat storage rooms.

Check the price, check the installation cost, check the features with your wholesaler. He will explain why dealers from coast to coast have sold thousands of Larkin Humi-Temps with exclusive, patented Frost-o-Trol Automatic Hot Gas Defroster.

*U.S. Patent 2,688,850

Features That Sell and Satisfy

Compare these outstanding features of the Larkin Low Temperature Humi-Temp Unit with Frost-o-Trol Automatic Hot Gas Defroster. Every one is a sales help to you and every one builds customer satisfaction which results in repeat sales!

- Minimum temperature rise during defrosting
- Adjustable defrosting time
- No excess heat or moisture load
- Lower operating costs
- Higher efficiency of evaporator unit
- Heat applied throughout entire evaporator
- Melts frost from inside out
- Simple, low-cost installation
- Drip pan is electrically heated by a carbon impregnated, water-proof, molded rubber pad—assures positive drainage of melting ice and water—prevents freezing and spill-over
- Larkin patented Cross Fin coil—staggered tubing
- Heavy gauge die stamped aluminum case
- Self-locking nuts—vibration-proof assembly
- Rubber mounted motors with thermal overload protection
- Universal motor mounting to fit any NEMA motor



LARKIN

COILS

INC.

519 MEMORIAL DRIVE, S.E., ATLANTA, GA., — MAIN-3171

Water-to-Water Heat Pumps Found Practical In All U. S. Climates

Suggestions Are Given for Operating Methods That Will Help To Reduce Problems of Water Treatment

"Water for the internal circuit of heat pump installations used for heating only or for cooling only can be economically treated if required since the quantity involved is usually small and is not subject to loss or dilution. On installations where changeovers are very infrequent the admixing of internal and external circuit water is low and can be compensated for by occasionally draining the system and refilling with water of known standards.

"The so-called 'pure' rain water is never pure. It always contains dissolved CO₂ and is

usually acid and corrosive. It is this quality which causes it to dissolve and pick up minerals as it percolates through the earth crust. These minerals become the troublesome substances which must be removed if we are to have non-scaling, non-corroding water for closed system usage.

"The methods of water treatment to be used will depend on what modification of the water content is desirable. Such methods as filtration, coagulation, sedimentation, zeolite treatment, threshold treatment, chlorination, additive modification, area-

tion, etc., are used singly and in combination to increase or decrease hardness of alkalinity or acidity or to remove iron or to increase or decrease dissolved gases.

Fit Process to Condition

"Hours could be spent in a discussion of each process. Such discussion is beyond the scope of any short paper but for our heat pump it should suffice to recognize the fact that water may need treatment. The actual methods to be followed in a specific case should be those set up by water treatment special-

This is the third instalment of a discussion on heat pumps by C. W. Millsom, vice president of Acme Industries, Inc. The first instalment, in the July 11 issue, dealt with residential water-to-water heat pump installations in the northern part of the U. S. Second instalment, in the July 18 issue, discussed heat pump installations which have been made for schools. The instalment in this issue is concerned with proper water treatment methods.

ists after thorough study of the water involved," Millsom said.

"Finally let's look at the problem of water treatment for the external circuit.

How Piping Affects Water

"Experience indicates that water-to-water heat pumps are usable under adverse conditions if proper installation and operational procedures are followed. On the installation side, the important factors are piping ar-

angement and piping materials. The piping system should be of compatible materials arranged so that all portions are completely filled with water at all times and sized so that the water will not be subject to any sudden pressure drop in its passage through the system.

"Bad water effects fall into four general classifications: electrolysis, corrosion, erosion, and scale formation. Considering these in the light of the foregoing statement, we find:

Select Compatible Materials

"The selection of compatible materials does much to eliminate the electrolytic effect which occurs when unlike metals are placed adjacent to one another in water containing a high percentage of salts or similar elements. The material selected should be either all ferrous or all cuprus. Zinc in the form of galvanizing should be avoided. If sulphur is present in addition to the salt, the selection should be confined entirely to ferrous materials.

"Keeping all parts of a system completely filled with water eliminates internal corrosion by water containing high percentages of chlorides, sulphides, and similar elements in chemical solution. Such elements become most actively destructive on wetted surfaces exposed to the air, as in partly filled piping or piping alternately full and empty. Proper valving and trapping of the system is the best preventive against this.

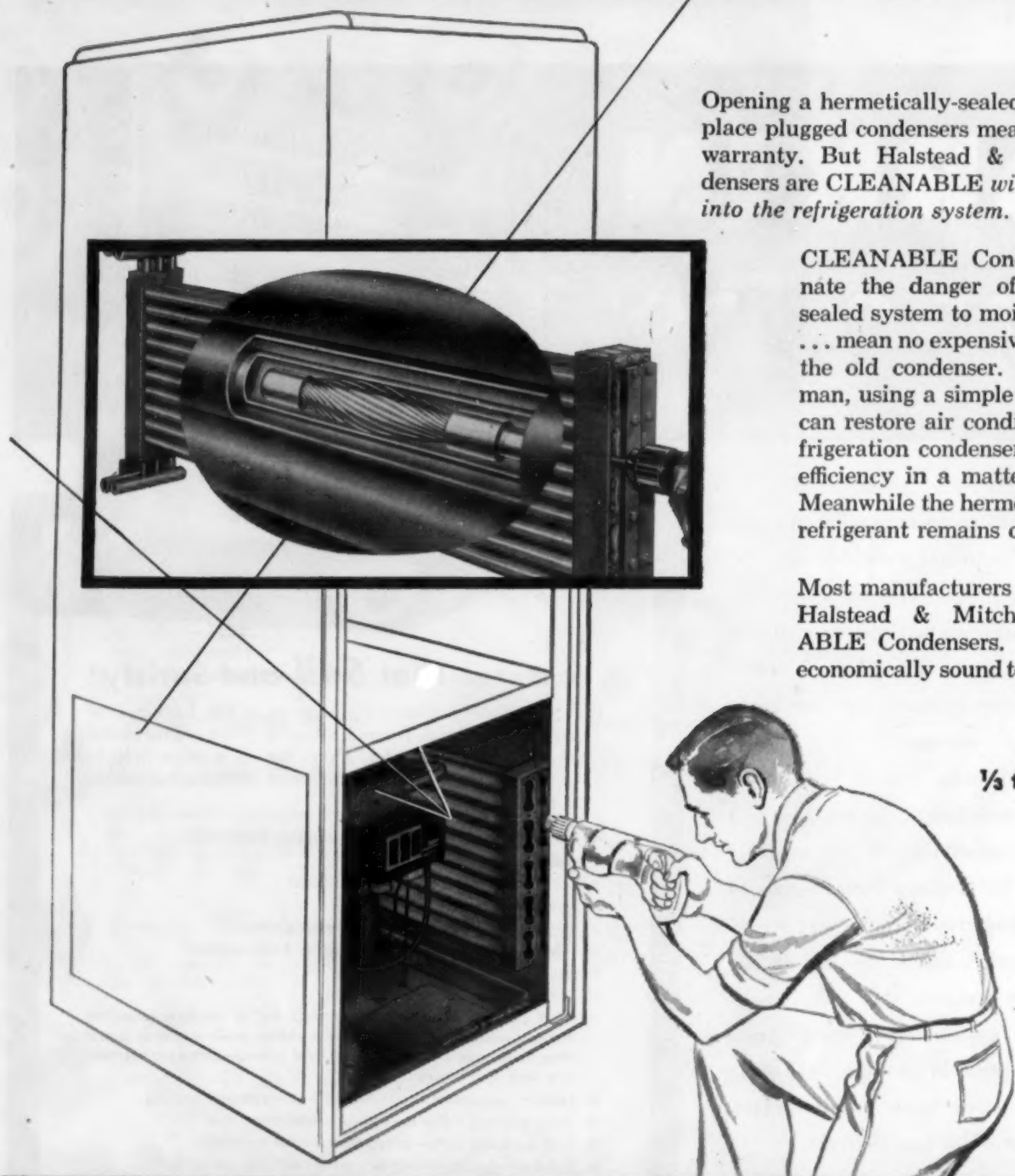
Keep Velocity Constant

"Erosion of pipe surface due to dissolved CO₂ and H₂S in water can be materially lessened if sudden changes in the velocity of water travel through the system with their resultant quick pressure drops are eliminated. These materials tend to go out of solution and revert to gaseous form if pressure is reduced. By maintaining constant pressure levels they may be kept in a harmless state.

"On the operational side we have found that proper procedures will reduce scale formation in water-to-water heat pumps. Frequent reversal or change from heating to cooling which results in a major change in the temperature range of the surfaces subject to scaling is a definite deterrent to scale formation and permits the use of water having the higher percentages of carbonates, calcium, and similar scale-forming elements safely.

"Insofar as water-to-water heat pumps are concerned, water treatment is less important and less necessary than in other types of industrial usage. Proper installation and operational procedures will effectively combat the corrosive, erosive, and scale forming properties of most so called 'bad waters,' " Millsom commented.

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Air Conditioning Ups Ladies Nylon Hosiery Output 29%, Cuts Maintenance 80%

PULASKI, Tenn.—A 29% increase in production after installing air conditioning was reported here recently by John Hardy, Sr., president of John Hardy & Sons, Inc., manufacturer of ladies nylon hosiery.

On a Monday preceding the completion of the plant's air conditioning and humidity control system, girls in the seaming department seamed 225 dozen pair of hose.

On the following Monday when the new system was in operation, the same operators, working the same number of hours with the same machines, seamed 444 dozen pair.



A PORTION of the seaming department of John Hardy & Son, Inc., where output of nylon hosiery rose 29% after the installation of a cooling and humidity control system. Maintenance costs dropped 80%, according to Hardy.

Overtime Pay Cut

The company states that it has been able to reduce the length of its workday and to eliminate Saturday and other overtime work. Because of increased production, employees can keep up with long rows of delicate 54 gauge knitting machines in the shorter period.

Another big saving, according to Hardy, has resulted from the fact that with air conditioning, machinery requires less maintenance. Knitting machines are 57 ft. long and the needles have only .002 in. clearance. A 3° variation in temperature and 3% variation in humidity will cause expansion and contraction to the point of causing the machines to jam.

Maintenance Costs Down 80%

Prior to air conditioning, it was necessary that a maintenance man be available full time on all three shifts, constantly adjusting the machines. Since the air conditioning and humidity system has been in operation, maintenance cost has dropped approximately 80%.

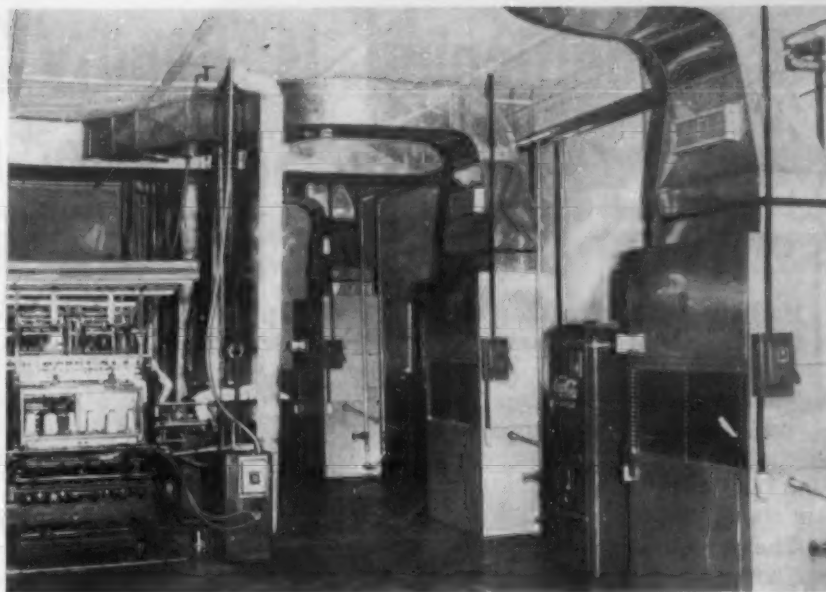
In addition, Hardy advises that a semiannual cleaning of the machine is no longer necessary due to the cleaner, filtered air provided by air conditioning.

The manufacturer comments, "All departments have shown an increase in efficiency since the installation of air conditioning. As an example, our seaming department has made an over-all increase of 29%. Individuals working on piece work, have increased as much as 33 1/3%."

The hosiery plant's air conditioning system consists of four Chrysler Airtemp 15-ton packaged water-cooled units tied into two duct systems that extend the entire length of the factory.

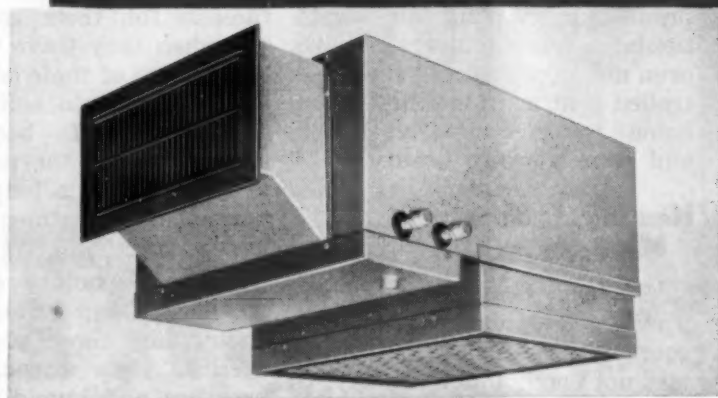
Same Ductwork Used For Heating

The same ductwork is also used for heating. Two of the air conditioners—one at each duct system—are controlled by both a thermostat and a humidistat to permit removal of moisture during in-between seasons. Re-heat is used to control temperature under these conditions. Moisture is added in winter from a spray type humidifier plus atomizing nozzles.



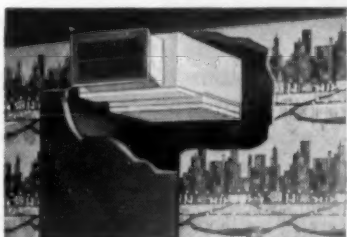
INTERIOR VIEW of the Hardy plant shows three of the company's four 15-ton packaged air conditioners and the duct system arrangement. Heating system uses the same ductwork.

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REFRIGERATION ENGINEERING, INC.

Dept. G-4

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Los Angeles 22, California

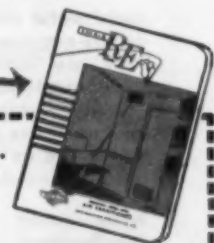
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Air Conditioning Is Beauty Aid, Lennox Advertisement Tells Women

Medical Opinion Emphasizes Vital Need for Control of Humidity as Well as Temperature

MARSHALLTOWN, Iowa—In a full-page advertisement in the July issue of *Vogue* magazine, Lennox Furnace Co. takes what it calls an "unprecedented advertising approach" to promotion of year-round residential air conditioning.

The ad tells the gals that air conditioning is a definite aid to beauty. This is the first time that an air conditioning ad has appeared in the magazine, one of the leading publications in the beauty-fashion group, Lennox said.

In the field of beauty, according to Lennox research specialists, leading medical men are generally agreed that controlled heat and humidity in the home produces not only greater comfort and health but better looking men and women as well.

The revelation was advanced by dermatologists and other scientists who were consulted by Lennox researchers during a comprehensive study just completed, it was further pointed out.

Commenting on the Lennox study and the supporting advertising message, J. R. Merrill, advertising manager for Lennox, said:

"We are indeed pleased to have confirmed our belief concerning still another benefit of air conditioning.

"Generally speaking, it's not too difficult to sell air conditioning to a man who works in a hot, stuffy office all day. On the other hand, there is still considerable opposition to air conditioning among women.

"By illustrating the important

beauty benefit, which women clearly understand—and appreciate—we hope to overcome a great deal of the prevailing opposition."

'Newest Wrinkle Remover'

In a press release explaining some of the basis for taking this approach, Lennox said the "newest wrinkle remover in the beauty field" was turned up by several scientists and medical men who, independently and without consulting each other, were tracking down information on such widely separated subjects as dermatology, neurology, and the living habits of the ancient Romans.

"Essentially, they all reported the same thing," the company said. "Health and climate are inextricably mixed, and beauty is the mirror of good health. That's the basis for their belief that all-season, central air conditioning in homes is helping us become a nation of better looking men and women.

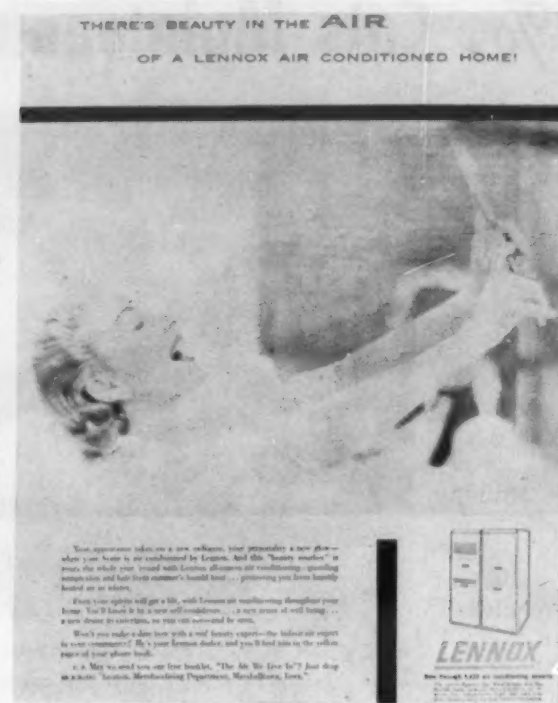
"Furthermore, the experts says, each improvement in their product by leading air conditioning manufacturers shows even more conclusively that controlled heat and humidity in the home result in better health and more glowing beauty."

Heating, Cooling Not Enough

"The key words in the experts' proposition are 'central, year-round' air conditioning. It's just not enough, doctors say, to have hot houses in the winter, or cold houses in the summer.

"To put air conditioning, or any kind of controlled indoor climate, in the role of assisting health and beauty, one must have it all 12 months, so that the moisture and heat conditions in the home don't vary. It's the change in climate that does the damage."

Lennox said that was supported recently by one of the "pro air conditioning" scientists—a nationally known derma-



VOGUE was the magazine selected for the appearance of this full-page advertisement, which appealed to the universal desire of women to be more beautiful. Lennox Furnace Co. calls it an "unprecedented advertising approach." The copy is based on medical opinion gathered in a survey of dermatologists and other scientists.

tologist—who reported treating dozens of women whose skin had become dry and wrinkled in a matter of months when they moved from one climate to another.

Moving to New Climate Can Affect Complexion

"This frequently happens to English and Irish women when they move to this country," the doctor explained. "They are famous for their complexions, yet when they leave the moderate climate of their island homelands, their skin suffers almost unbelievably. It becomes dry and flaky, and the poor women are faced with a long, unlovely period of adjustment to their new climate."

The unfortunate experiences of these island ladies, says the doctor, are more proof of the need to keep a constant temperature and humidity in one's home the year around.

Fireplaces Turn Skin Flaky

This same doctor reports that, even at home, English women become a good argument for temperature control when they reach their middle thirties. Homes in England frequently are heated by open fireplaces, and years of standing in front of them, getting the full blast of hot, dry air smack in their faces, eventually turns English-women's skin flaky and rough.

"Ancient peoples experimented for centuries with crude forms of air conditioning," it was pointed out. "The Romans de-

veloped an elaborate unit—to use a modern term—that was made up of wind tunnels and steam chambers. It wasn't too economical, though, even by Roman standards. It took anywhere from 12 to 100 slaves to operate.

"However, in trying to make their own weather, the Romans guessed at something that American women—and their doctors—are just beginning to realize. Weather has a lot to do with beauty—in fact, if beauty is only skin deep, weather has quite a lot to do with it.

"In winter, hot furnace air—undiluted by some sort of moisture control—dries out the skin. Dermatologists regard winter as a boom season for women patients. . . .

"At the other side of the calendar, the dermatologists' story is just about as sad. Excessive humidity acts as a weight on the pores of the skin and the glands through which one perspires.

Perspiration Must Evaporate

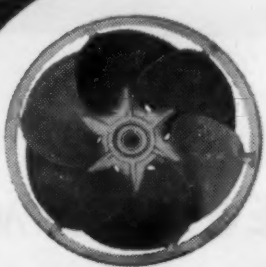
"Normal perspiration, of course, is a healthy function. It evaporates, and the evaporation is a cooling process. With a great deal of dampness in the air, obviously, this perspiration hasn't a chance to evaporate.

"What happens then? In the words of a leading American skin specialist, 'The skin goes to pot.'

"According to the specialist, humidity can lead to anything from ulcerated skin to prickly (Concluded on next page)

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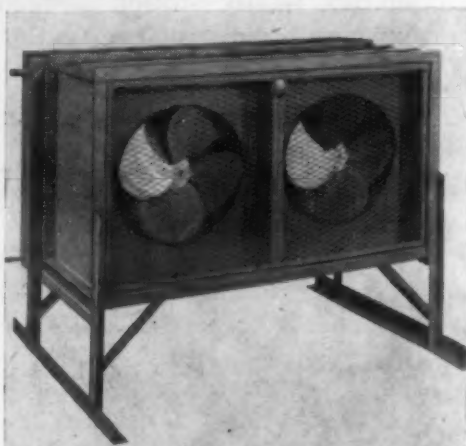
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• ROOM AIR CONDITIONERS, 1/2, 1, 1 1/2, 2 TONS
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Air Conditioning Aids Beauty--

(Concluded from preceding page) some experiments being conducted by another medical trouble shooter, this time a nerve specialist.

"During the Second World War, hundreds of American soldiers stationed in the Pacific developed mysterious skin disorders. They couldn't fight, they couldn't eat, they were in such pain they could barely move.

"So long as they were in the hot, muggy Pacific climate, they languished on hospital cots, showing no response to treatment. Then, they were sent back to the United States, regarded by some doctors as beyond treatment. Within days after they landed home, they were up and walking, apparently cured.

Perspiration Clogs Pores

"Less drastically, but still unpleasantly, the same thing might happen to an American woman in her own home. The high humidity keeps perspiration from evaporating and the pores and glands become clogged. This can lead to a myriad skin ailments, the least of them highly unpleasant and disfiguring.

"For example, the outer layer of the skin expands as the pores clog. This results in a rough, red rash—possibly on the face, arms, or legs and, occasionally, all over the body. . .

Rashes Can Lead to Permanent Injury

"Such rashes, of course, are temporary—but dermatologists warn that they can lead to permanently injured skin. On the happier side, living in moisture controlled air can contribute immeasurably to healthy skin—and, in the words of one nationally famous skin authority, 'Healthy skin is beautiful skin.'

That constant temperature and humidity are major factors in preserving good health and beauty was attested to recently by the cautious opinion of an eminent eye, ear, nose, and throat specialist, Lennox stated.

"People with a 'sinus condition,' of whom there are 75,000,000 in the United States, seem to suffer more in damp climates," the company said.

"Many doctors, however, have long contended moisture is a relatively minor irritant of the sinuses and have blasted people who complain about it as hypochondriacs.

Sudden Changes Affect Sinuses

"Not so our specialist. Climate does affect the sinuses, he says, but in a way sinus sufferers least expect. It's the abrupt change, from dry to moist, hot to cold, that sets temples throbbing.

"Does that mean, then, that the person protected by year-round home air conditioning stands a chance of beating sinus trouble?

"Yes, said the expert. Of course, one isn't in the home all the time, so the sinus sufferer will feel some climate change, but with air conditioning he will at least wake in the morning with a clear, unaching head.

"That conclusion fell in with

they needed. When their husbands got home, dinner was uncooked, housework had gone by the board, and children and mothers, both, were in tears.

"That described a woman's summer day, but what about the winter? Was that as bad? "Just about, the expert found out. With super-heated houses, where moisture control was not considered, families were easy prey to colds. Furthermore, the heat sapped the women's energy, leaving them with barely enough ambition to turn over a fried egg.

Children Suffer from Perspiring Mothers

"Children, he decided, get the worst of it. Worn out before their long day even started, perspiring mothers were in no mood to give their youngsters the understanding and affection

they needed. When their husbands got home, dinner was uncooked, housework had gone by the board, and children and mothers, both, were in tears.

"That described a woman's summer day, but what about the winter? Was that as bad?

"Just about, the expert found out. With super-heated houses, where moisture control was not considered, families were easy prey to colds. Furthermore, the heat sapped the women's energy, leaving them with barely enough ambition to turn over a fried egg.

"Air conditioning, the doctor found, painted a different picture. The weather was still outside the door, of course, but when families were secure from it inside, in temperature and moisture controlled rooms, housework was done, children were happier, and husbands had something to go home to besides chaos."

Wright and White Take Over Sales Manager Posts at Perfection Industries

CLEVELAND—Perfection Industries, Inc. announces that its appliance and furnace sales divisions are now headed by Donald G. Wright as general sales manager.



P. J. White

He assumes the duties of J. H. Rasmussen who has retired as vice president and director of appliance sales.

It was also announced that Phillip J. White has been named sales manager of Perfection's refrigeration contract division.

For the past three years he has been sales manager of the refrigeration products division of Hupp Corp., whose central air conditioning business has been purchased by Perfection.

Wright has been general manager of Globe Stamping & Refrigeration Products Div. of Hupp since 1953. Prior to that, he was assistant to the vice president in charge of manufacturing for Chrysler Div. of Chrysler Corp. in Detroit for seven years.

Following his graduation from Yale university in 1938, with a degree in industrial administration, Wright joined Warner & Swasey Co. in Cleveland as a sales engineer. He left that post to enter the U. S. Navy in 1940, where he served until 1946.



D. G. Wright

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For more information about products advertised on this page use Information Center, page 18.

Servicing Automobile Air Conditioners

BY C. DALE MERICLE

With this instalment we conclude a discussion of another make of automobile air conditioner—manufacturer by Automotive Air Conditioning, Inc. of Oklahoma City.

Previous makes featured were those of A.R.A. Mfg. Co., in the issues of June 13, 20, and 27, and Frigikar Corp. in the issues of July 4 and 11.

Numerous other makes will be described in future issues to give the independent serviceman as much help as possible in cashing in on this booming new application of air conditioning.

Frigiquip, Frigette-2

Automotive Air Conditioning, Inc.

3724 N. May Ave.
Oklahoma City, Okla.

SERVICE HINTS

Editor's Note: Instructions on the installation of the Frigiquip and Frigette automotive air con-

ditioner are not presented in this series because the installation is handled either by the factory or authorized installation centers.

Although most servicing of the units will probably be done by authorized personnel, the previous description and the following hints will aid the independent serviceman in performing service for users when necessary.

Evacuating System

1. Remove the two 1/8-in. pipe plugs in the suction service valve at the rear of the compressor and install a half union in each hole. Connect a charging line to each half union. To one charging hose, connect a drum of "Freon-12," and to the other charging hose, connect the compound (low side) gauge.

2. Remove one 1/8-in. pipe plug from the discharge service valve and install the other half union. Connect the other set of charging hose to this half union and lead them away from the car. A glass jar, or bottle half full of refrigeration oil should be used to help in the evacuation procedure.

3. Open the suction service valve about two turns, using the service valve wrench. Front seat the discharge service valve all the way in.

4. Start the engine. You will note that immediately the air that is in the system is being pumped out. Should oil spurt out the discharge hose, partially

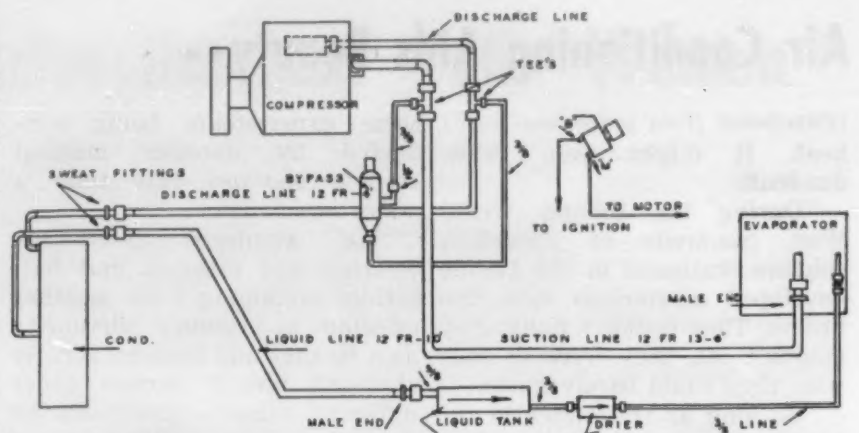


FIG. 5—Refrigerant piping is indicated in this schematic of Frigiquip system. Hookup of components in Frigette "front-end" system is essentially the same.

close the discharge service valve until the oil stops coming out, then slowly open the valve again until no oil is being thrown out.

5. After the engine has been running a few minutes, most of the first rush of air is out of the system, and the discharge hose can be inserted into the bottle of oil. You will note that air is bubbling up in the oil showing that it is still present in the system. Run the engine until no more air is bubbling up. This will take at least one-half hour.

Do not try to get by with a short evacuation run as air may still be in the system after 20 minutes running time. An evacuation pump may be used for this purpose.

6. After the proper time has elapsed, the suction portion of the compound gauge should register 28 in. of vacuum. While the engine is still running remove the discharge hose and hold thumb over the hole in the half union. Close (back seat) the discharge service valve and then you may remove your thumb from the hole. Shut off the car engine.

7. If no leaks are present, the system will hold the 28 in. or more of vacuum. If it does not hold the vacuum a search must be made to find a loose connection, broken tube, or a hole accidentally drilled into the tubing of the coils or lines. This, of course, must be repaired be-

fore going on, and the evacuation must be done again.

Charging System

Connect the discharge line to the high-side gauge and the discharge port. Open discharge port valve two turns. If no leaks are found, put the "Freon-12" drum on a set of scales and weigh it accurately. Set the slide on the scales for exactly 6 lbs. (on Frigiquip) or 2 lbs. (on Frigette).

Then allow a small portion to enter the system by opening the suction service valve (front seat) and opening the valve on the "Freon-12" drum. Allow about 20 lbs. pressure to enter the system.

Light a halide leak torch and check all joints and connections for leaks. Repair any that might be found.

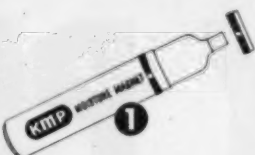
If no leaks are present, start the engine and set it at fast idle. Open the "Freon" drum and allow the refrigerant to enter the system until the scales show 6 lbs. (or 2 lbs.) to be in the system. Stop engine.

After charging the unit, make a high pressure leak check on all joints and connections in the system. If no leaks are found, back seat the service valve and carefully remove the charging lines. Remove the unions from the service valves and install the 1/8-in. pipe plugs.

(Continued on next page)

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6471 PLYMOUTH AVE., ST. LOUIS 14, MO.

Servicing Auto Air Conditioners--

(Continued from preceding page)

Adjusting Controls

Adjusting of the system does not present any great problems. The expansion valve should be set very close to the proper setting when the unit is received. The exact setting of the valve is five turns or 30 flats out from the fully open (screwed all the way in) position.

Frigiquip maintains 10° to 12° superheat across the coil. This setting can also be set by using two thermometers across the coil and setting the expansion valve to maintain the proper superheat while the car is driving at cruising speed. More humid areas will require a greater superheat adjustment to prevent icing up.

The by-pass valve should be set to maintain a suction and head pressure of 16 to 18 p.s.i.g., and 180 to 200 p.s.i.g., respectively. Turning the valve adjusting screw in lowers the heat pressure and raises the suction pressure.

To set the valve to the proper position, turn it out all the way and then turn it for seven full turns. These pressures are for a 100° day. Lower temperature will give lower pressure.

The by-pass valve should carry a setting that will not allow the system to ice up on a long drive. Some experimenting with this setting will soon show you where the valve should be set. You will note that any setting made on the by-pass valve will affect the setting of the expansion valve and the reverse is also true.

Care of Condenser

The condenser is vulnerable to collecting bugs and mud due to its location at the front of the car ahead of the radiator. It should be periodically cleaned and any bent surfaces straightened.

A dirty condenser will result in engine overheating and extremely high head pressure.

Engine overheating, of course, may result from factors having nothing to do with the air conditioning system. Manufacturers of permanent type anti-freeze do not necessarily recommend its year-round use. After one season the rust inhibitor in it generally loses its effectiveness. A deposit of slime on the inner coolant surfaces of the car engine cooling system will prevent proper cooling of the engine.

Under these circumstances the radiator should be drained and the complete engine cooling system back-flushed.

Overheating of the engine can occur as a result of the air con-

ditioning system by the additional drag imposed on the engine at idle or slow speeds. Adjustment of the car ignition and valve timing should correct this condition.

When servicing an automobile air conditioner, it is recommended by Frigiquip that a blower or fan be placed in front of the automobile to increase air flow over the condenser.

This will materially aid the condensing and reduce engine temperature. In addition, it more nearly simulates actual operating conditions on the road.

Service Chart

TROUBLE: Insufficient air circulation.

Check: Not enough air from blower. Blower running under speed due to loose or corroded connections, broken switch, low battery charge.

Correction: Trace circuits for bad connections. Check switch and replace if necessary. Check battery and recharge it if low.

TROUBLE: Air from evaporator not cold. Compressor not running, or running slowly. Belt broken or loose and slipping.

Check: Obvious upon inspection.

Correction: Tighten the idler pulley or compressor adjustment. Proper tension of belt gives $\frac{3}{8}$ in. deflection. Be sure to align pulleys properly.

TROUBLE: No cold air.

Check: Pressure of both high and low side. Check discharge temperature. Determine if thermostatic expansion valve is hissing (calling for refrigerant).

Correction: Thoroughly test entire system for leaks. Find and repair leaking joints, then add refrigerant.

TROUBLE: No cold air.

Check: Loose or improperly fastened expansion valve feeler bulb.

Correction: Tighten feeler bulb clamp.

TROUBLE: Compressor unit noisy. Loose drive pulley, or compressor pulley.

Check: Inspect if nut on compressor shaft is tight. Also, key from compressor shaft to pulley may be loose in key-way.

Correction: Tighten shaft nut or replace key if loose.

TROUBLE: Squeaky drive belt, loose or greasy.

Check: Belt should not have more than $\frac{3}{8}$ in. slack. Inspect for oil on belt.

Correction: Tighten belt if loose. If greasy, wipe clean with Naptha and coat with powdered talc.

TROUBLE: No cold air, but

suction and discharge pressures okay or high.

Check: Air in system.

Correction: Release refrigerant. Do not pump down. Evacuate system and recharge with clean or new refrigerant.

TROUBLE: High discharge pressure. Discharge line from compressor extra hot.

Check: Condenser stopped with dirt, bugs, or lint.

Correction: Clean condenser thoroughly with hose.

TROUBLE: Low suction pressure. Suction tube out of evaporator coil warm.

Check: Expansion valve strainer stopped up with foreign matters.

Correction: Stoppage will probably be found in strainer at inlet valve. Remove and wash in clean naptha. This will re-

quire pumping down, evacuating, and recharging.

TROUBLE: Same as above, except symptoms may not appear every time unit is operated. Moisture sometimes passes valve and does not appear for several hours.

Check: Moisture in expansion valve.

Correction: Same as above, and also install new dehydrator.

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3. **THEY ARE EASY TO INSTALL** because the end connections are of proper size to match the suction and liquid lines of standard units and it is not necessary to use special adapting fittings.
4. **THEY ARE A NEAT INSTALLATION** because fittings are in the end caps instead of in the shell and refrigerant lines remain parallel.
5. **THEY ARE COMPETITIVELY PRICED.**

REFRIGERATION RESEARCH

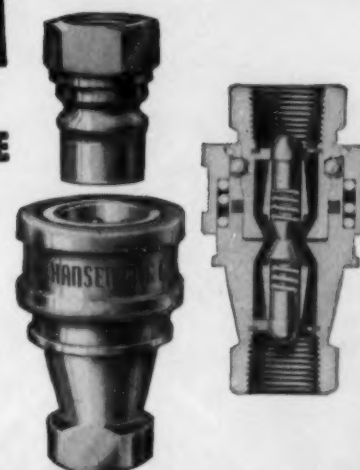
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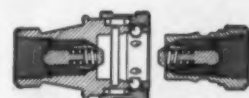
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GUNS • SAND BLAST CLEANERS
ENGINE CLEANERS

To connect a Hansen Two-Way Shut-Off Coupling, you just pull back the sleeve and push the Plug into the Socket. To disconnect, merely pull back sleeve. No tools required. Similar valves in Socket and Plug shut off both ends of line when Coupling is disconnected—practically eliminate spilling of liquid or escape of gas at instant of disconnection.

FEMALE PIPE THREAD CONNECTIONS FROM $\frac{1}{8}$ " TO 1"

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Refrigeration Problems And Their Solution

By Paul Reed
For Service and Installation Engineers



Service Trouble on 'F-22' vs. 'F-12' (7)

In a foregoing discussion we found that high discharge temperatures contribute importantly to oil breakdown, and that it is more difficult to maintain low discharge temperature in systems using "Freon-22" (or "Genetron-141") than systems using "Freon-12" (or "Genetron-12"). But is there anything we can do to reduce high discharge temperatures?

We also found in Fig. 3 that low evaporator temperatures

contribute to high discharge temperatures. There is not much we can do about that. The needs of the customer pretty much determine the evaporator temperature.

KEEP SUCTION PRESSURE UP

However, we can help some by keeping as low a temperature difference as possible between the cabinet temperature and the evaporator temperature; and in turn, we can do this by using generous size evaporators. Small evaporators and poor air circulation in the cabinet require evaporator temperatures

that are lower than necessary.

It is not at all uncommon to find evaporators underfired with refrigerant. This causes low suction pressures, loss of capacity of the system, long running time, and increased cost of operation.

It is especially objectionable with "Freon-22," for it tends to increase the discharge temperature, not only because of the increased compression ratio, but also because of the increased suction superheat. So keep the evaporators fully active.

KEEP HEAD PRESSURE DOWN

In Fig. 4, we found that high condensing temperatures contribute to high discharge temperatures. We can often do something about high condensing temperatures and head pressures.

We can keep condensers clean. We can be sure that we

have a good movement of air over air-cooled condensers. We can keep boxes and other obstacles away from units, so that the same hot air is not recirculated through the condenser. We can keep enough space between the condenser and the wall. Your experience will tell you the other things to do to keep the head pressure down.

HOW LOW MUST HEAD PRESSURE BE?

But how low must the head pressure be maintained in order to minimize the danger of oil breakdown?

Fig. 6 sheds some light on this question. It is based on a chart put out by Servel, and was in turn derived from information presented by a task committee of ASRE.

From these curves can be found the condensing temperatures and head pressures that must be maintained under cer-

tain conditions of evaporator temperature and suction superheat, in order to prevent discharge temperatures in excess of 275° F.

As mentioned previously, 275° F. is specified by one of the compressor oil manufacturers as the temperature at which oil deterioration begins. (Some equipment manufacturers feel that 275° F. is too high, so the condensing temperatures and suction superheats shown in Fig. 6 would probably be considered excessive by those manufacturers).

The solid lines are for "Freon-12" and the dotted lines are for "Freon-22." To use, select the evaporator temperature on the bottom horizontal line (abscissa) and trace upward to the curve for either "Freon-12" or "Freon-22," marked with the temperature of the suction gas to the compressor. From that point, trace horizontally to the left, and read the condensing temperature and pressure necessary to keep the discharge temperature under 275° F.

For example: A freezer using "Freon-12" has an evaporator temperature of -10° F., and the suction gas is warmed to 50° F. (superheated 60° F.) by the time it gets to the compressor. Therefore, the condensing temperature must stay under 185° (head pressures at this temperature not available) to keep the discharge temperature under 275° F.

If that freezer, with the same evaporator temperature and suction superheat, had used "Freon-22," then the condenser should stay under 138° F., and the head pressure under 330 p.s.i.g.

LOW TEMPERATURE, AIR COOLED WITH HIGH SUPERHEAT

It should not be difficult to stay under 185° F. condensing temperatures for the "Freon-12," but condensing temperatures of 138° F. are not uncommon with air-cooled equipment in the summertime, particularly if the condenser is not very clean or the air circulation is not good. It is with the low temperature evaporators with high suction superheats that we start to get into trouble.

For example: An open self-service frozen food case using "Freon-22" has an evaporator temperature of -30° F. The suction gas reaches the compressor at 50° F. also (superheated 80° F.). A maximum condensing temperature of 105° F. (head pressure 213 p.s.i.g.) would be required in order to keep the discharge temperatures to 275° F. or less.

A condensing temperature of 105° F. would be feasible with a water-cooled unit, but not feasible for an air-cooled unit in many places in the United States during the summer months.

CHART IS CONSERVATIVE

Please note that this chart is based on a maximum discharge temperature of 275° F. which might not be acceptable to some manufacturers. Also, it assumes adequate air circulation over the compressor to enable it to dissipate its heat satisfactorily. These curves and the ones shown last week in Fig. 5 suggest another means of prevent-

(Concluded on next page)



Suniso Refrigeration Oil—all ways good

Even on the shelf the Suniso can indicate its superiority. Take it down, look at the crystal-clear directions on the back, and you're even more certain you've found the perfect refrigeration oil. Better yet, use it on your next job; then you will be convinced. Suniso is the quality oil—

SPECIFIED by nearly all original equipment manufacturers.

NON-WAXING—FOAM-RESISTANT, unexcelled for all low-temperature applications.

WITH UNMATCHED STABILITY under all conditions of refrigerant dilution, heat and pressure.

AND YOUR FAVORITE WHOLESALER HAS IT!

Suniso is distributed nationally by VIRGINIA SMELTING Co., Dept. 63, West Norfolk, Va.



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V-METH-L • CAN-O-GAS • PERMAGUM • PRESITITE TAPE
SUNISO REFRIGERATION OILS

Available in Canada and many other countries

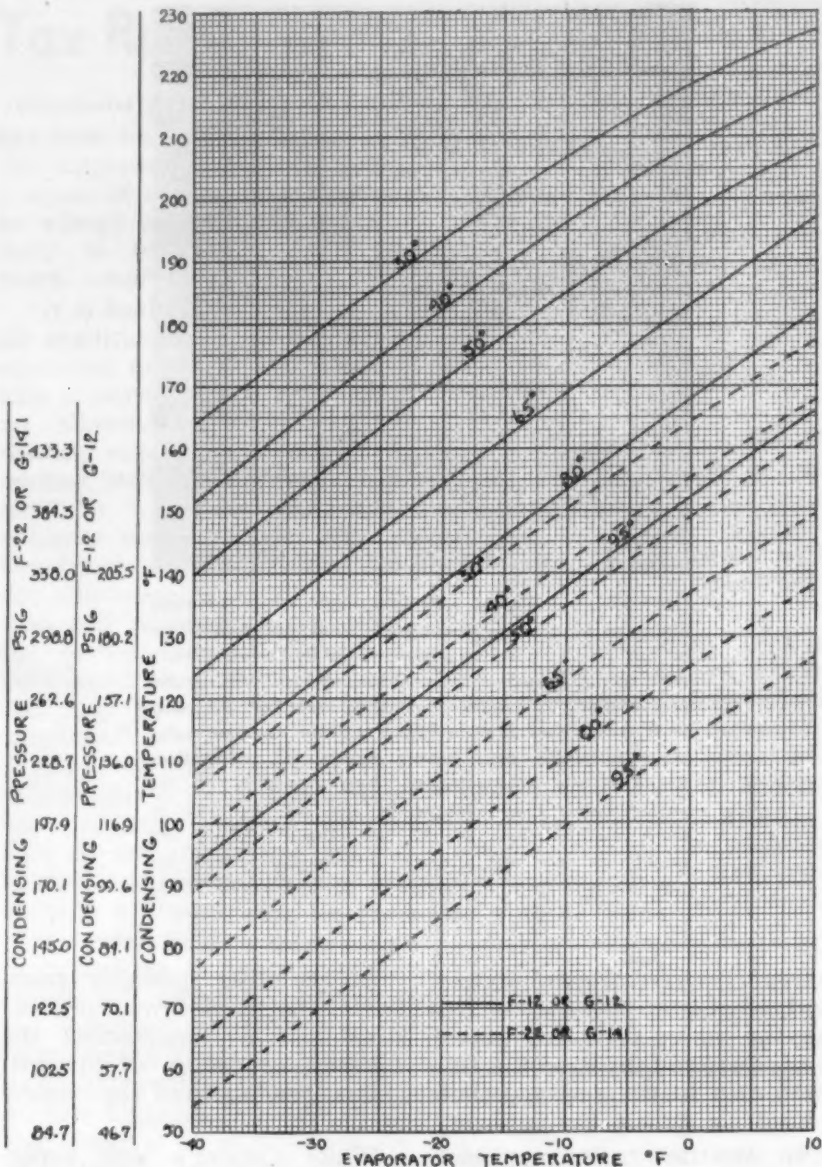


FIG. 6—Chart for determining the condensing temperatures and head pressures for "Freon-22" or "Genetron-141," and "Freon-12" or "Genetron-12," for given evaporator and suction gas temperatures, that should not be exceeded in order to keep discharge temperatures under 275° F.

Service Trouble on 'F-12' vs. 'F-22' --

(Concluded from preceding page) ing excessive discharge temperatures, particularly with "Freon-22."

REDUCE SUCTION SUPERHEAT

On low temperature equipment using "Freon-22," especially air-cooled equipment, keep the suction superheat low, particularly if hot weather makes high condensing temperatures and head pressures unavoidable.

On a sealed system, you may not be able to control the suction superheat, but on the partially sealed systems you can open the expansion valve some (reduce the superheat); or on capillary tube systems, either shorten the cap tube slightly or add a slight amount of refrigerant. Insulating the suction line, especially if it is a long one and exposed to high room temperatures, may help.

It is not practical to operate most systems with less than 20° F. of suction superheat. Less than that may bring on oil or liquid slugging and do more damage to the compressor than is gained by reducing the discharge temperature.

ACIDS AND HIGH TEMPERATURES ATTACK STATOR WINDING

Little has been said so far about the stator insulation in the motor-compressor. Most motor-compressor stators today are wound with Formex or Formvar wire.

It is an excellent insulation and has served our industry well. However, it is not indestructible and can be attacked by hydrochloric and hydrofluoric acids, the acids that are sometimes formed within a system whose refrigerant is in

the class of halogenated hydrocarbons such as the "Freons," "Genetrons," Carrene-7, methyl chloride, and others.

Moreover, this insulation can be broken down by excessive heat. One of the products of this breakdown is water, which combining with any acids in the system may cause rapid deterioration of oil and materials of which the equipment is built.

To briefly summarize:

"Freon-22" (or "Genetron-141") presents some problems that are much more acute than with "Freon-122" (or "Genetron-12"). In several respects, "Freon-22" requires more care than "Freon-12," but most of the troubles that are under the control of the man in the field can be avoided by a better understanding of the characteristics of this refrigerant, and by different techniques that must be employed with "Freon-22," in contrast with "Freon-12."

(The End)

Wolverine Announces Office Changes, Names 2 Representatives

DETROIT—Wolverine Tube Div. of Calumet & Hecla, Inc. recently announced:

Opening of new general sales offices in the Guardian Towers of the Guardian Bldg. here.

Movement of the North Carolina sales office from San Mateo to 1301 Sixth St., Room T, in San Francisco. R. C. Cain was named new sales representative.

Appointment of Gerald S. Feild as sales representative in the state of Georgia with headquarters in Atlanta. He was formerly office sales representative at Wolverine's Decatur, Ala., plant.

Sporlan Appoints Frank L. Vaughn

ST. LOUIS—Sporlan Valve Co. announced the appointment of Frank L. Vaughn to its field sales organization.



F. L. Vaughn

Vaughn, a graduate of the University of Alabama, was formerly with a large air conditioning and refrigeration manufacturer.

He will open Sporlan's new Birmingham branch from which he will cover Alabama, Mississippi, and parts of Louisiana, Florida, and Tennessee.

David A. Hamilton Appointed by G-E Small Motor Dept.

FORT WAYNE, Ind.—David A. Hamilton has been named manager of agent, distributor, and user sales in General Electric Co.'s Small Integral Motor Dept., according to G. T. Graham, manager of marketing for the department.

Hamilton succeeds S. B. Gaylord, who has been named manager of industrial and specialty distributor sales in the company's Apparatus Sales Div.

Hamilton, who joined the company in 1941, was most recently product planner for the Small Integral Motor Dept. in Fort Wayne.

Available with filters for comfort cooling or commercial refrigeration.

Completely accessible—all components, fans, motors, valve connections located for unobstructed work without disturbing a single installed refrigeration, electrical, or water drain line. Removal of one thumb screw opens entire unit for service.

The serviceman's dream—semi-circular design for all-over air distribution. Standard twin fans and motors give extra safety; one fan and motor will maintain safe box temperature until serviced. Tenney standard non-ferrous coil, faceted fins, rustproof baked enamel finish, and accurate ratings.

Write Dept. 725, for Bulletin 104-53. Do it today!



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ENGINEERING, INC.

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Plants: Union, N. J. and Baltimore, Md.

Engineers and Manufacturers of Refrigeration and Environmental Equipment

There's a simpler way...



Get this guide to nearly 5,000 Ranco Controls

Ranco Replacement Reference No. 1544 lists almost 5,000 controls... largest line in the industry. Helps you select the right control for every job. Buy yours from your Ranco wholesaler now.

Ranco Controls

to reverse air conditioners from hot to cold

You don't need a battery of controls to coax warm air out of an air conditioner. There's a single two-in-one Ranco Control for the job.

Installation of a Ranco Control on air conditioners equipped for heating or cooling trims service time, cuts down on callbacks and hikes your profit figure accordingly. Get the right control the first time. See your Ranco wholesaler. Install Ranco... to be sure.



WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS

For more information about products advertised on this page use Information Center, page 18.

Selling Techniques Win Icemaker Contest For Fast-Moving, Small Town Salesman

Story of Economy And Convenience Sells Customers

SYRACUSE, N. Y. — Harold V. Beattie, a fast-moving 33-year-old salesman from Meredith, N. H., is busy making plans to take his wife on a round-the-world cruise after clinching first place in Carrier Corp.'s third annual Icemaker Sweepstakes Feature Race Contest.

In racing parlance, Beattie "won going away," outdistancing 50 other competitors, four

of whom received two-week vacations and cash prizes as regional winners in the qualifying race.

The four regional winners in the qualifying race are:

Philip E. Conrad, a salesman for Simmons & Conrad, Hartsville, Pa.; Joseph D. Dailey, a salesman for Omaha Fixture & Supply Corp., Omaha, Neb.; Edward J. Marquez, Jr., a dealer for Industrial Sales Corp., New Orleans; Douglas Moat, a salesman for Ace O'Hara Refrigeration Co., Phoenix, Ariz.

Needed No Handicap

"In winning the 1955 Icemaker Sweepstakes," Carrier re-

ported, "Beattie established a record for super salesmanship that future contestants will be hard put to exceed.

"Incredibly, Beattie managed his victory without the help of a buying power index handicap advantage assigned his sparse sales territory in the sugar woods of Vermont and New Hampshire."

During the qualifying race and the Grand Championship runoff, the star salesman for H. E. Humphreys Co., Carrier dealer in Concord, N. H., rolled up \$2,400 in commissions and prize points.

Together with the 35-day trip around the world for two, estimated at \$4,000, Beattie's "purse" comes to more than \$6,400 or a return of about \$130 per working day for ten weeks of Sweepstakes galloping.

Part of Money Will Pay Medical Expenses

"Harold's victory is an especially happy ending for Phyllis Beattie, still partially handicapped from an attack of polio four years ago," it was noted. "Part of the prize money will go to paying off medical expenses."

In a second happy ending, the winning Carrier distributor, Mrs. Marion Dow Pierce of Boston Filter Co., shared the winner's circle during Carrier's Sweepstakes award banquet in Syracuse. Mrs. Pierce was awarded a sterling silver vice president's cub modeled after an original done by Paul Revere.

How does a refrigeration salesman in the sparse sugar woods of Vermont and New Hampshire outsell his big city brethren by such a wide margin, particularly on an item such as an ice maker?

According to Beattie, the "secret" is really no secret at all.

His record-breaking average of one sale per day during the feature race was made by the book, one sale at a time, to restaurants, hotels, an inn, a diner, a motel, and country clubs.

Winning Sales Pitch

What then was his pitch?

"Economy and convenience," says Beattie, somewhat surprised at the question. "However," he adds, "the power of our economy story surprised even me on one sale."

"The prospect was the Mountain View hotel in Whitefield, one of the finest hereabouts. The folks who run it always supplied their needs by having their staff cut and haul natural ice during the slow winter season."

"The hotel crew was on the



THAT LOOK in Harold J. Beattie's eyes spells far away places as he receives briefing on round the world cruise he has just won as top prize winner in Carrier Corp.'s third annual Icemaker Sweepstakes contest. Making the presentation at special award banquet at Syracuse, N. Y. is Michael J. Kane (right), Carrier icemaker sales manager, while Mrs. Beattie beams in anticipation. Carrier's new supersalesman from Meredith, N. H., posted better than average of one sale per day to finish out in front of 50 competitors. During the qualifying race and grand championship runoff, the star salesman for H. E. Humphreys Co. in Concord, N. H., earned \$2,400 in commissions and prize points.

Your Sales are the payoff

AUTOMATIC KUBLER

SELF CONTAINED BOTTLE COOLER

DIRECT DRAW

SELF CONTAINED BLUEBIRD

DRAINBOARD

ICE CUBE MAKER 12 TRAY

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NEW YORK CITY
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GREATER PROFITS FOR ALL! \$

WITH THE NOLIN Moisturizer VEGETABLE CASE

AVAILABLE IN 5' - 8' - 10' SIZES

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NO WATER FOR CONDENSING!

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REMOTE TYPE AIR COOLED CONDENSER

payroll the year around anyway, and, of course, the ice was free for the taking from any nearby lake. Despite this, it took a full-time man to cut and distribute stored ice during the summer."

In Beattie's sales approach, he pointed out that by eliminating this job they could more than pay for the three machines they needed. That did the trick.

"Of course, when I find a guy who's paying a cent a pound for ice—which is what people around here pay when they get it at all—I just sell hands down because he's got no argument at all," Beattie declares.

In his other icemaker sales, Beattie battered down customer resistance by emphasizing the convenience factor of his Icemaker machine and the quality of the ice it produces.

While Carrier's new supersalesman modestly disclaims any extra special selling ability, it just so happens he's doing what comes naturally in his family.

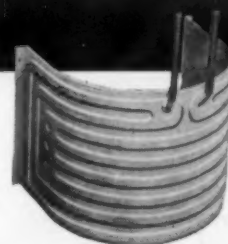
Beattie's dad is one of New England's top wholesale grocery salesmen. Also, son Harold has been making dollars out of doorbells during the 11 years of his blooming business career.

PRESSTITE MASTIC SEALERS

- Seal seams
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 - Bulk, bead, tape or semi-liquid
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Did you know you could get COLD PLATES like this?



**MANY SHAPES
MANY SIZES
MANY METALS**

"JOB TAILORED" Dean Cold Plates are the answer to tough refrigeration problems. You can get Cylinders, U's, Angles, Tanks, etc., made exactly in the size you need.

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PRODUCTS, INC.

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Tax Ruling --

(Concluded from Page 1, Col. 2) has been installed in a room of the taxpayer's residence for the purpose of effecting relief from an allergy or for relieving difficulty in breathing due to a heart condition.

"It is held that the cost of an air conditioning device, plus the operating expenses, less any resale or salvage value, constitute an allowable deduction as a medical expense subject to prescribed limitations, provided the need for it is substantiated by evidence submitted to show that the device is used primarily for the alleviation of a person's illness and provided further that the device does not become a permanent part of the dwelling and may be removed to other quarters."

Asked by the News if this ruling can be applied generally, the Internal Revenue official said no definite answer can be made in the absence of complete facts in a given case.

"In order for this office to be in a position to issue a ruling which will affect a taxpayer's tax liability," he explained, "it is necessary that the taxpayer make the request setting forth all the facts in the case or if the taxpayer is represented by an attorney or agent the request must be accompanied by a power of attorney authorizing the attorney or agent to represent the taxpayer."

York Report --

(Concluded from Page 1, Col. 3) a steady increase in sales and earnings during the first nine months compared with the same period last year, it was noted.

According to Lauer, the company's inventory situation with respect to packaged air conditioners, resulting from overproduction by the industry in 1954 and which adversely affected its sales and earnings during the first two quarters, appears to have been well rectified.

The combined field and factory inventory of this class of product is substantially below a year ago, it was stated. Lauer believes that this and other

favorable conditions indicate quite satisfactory results in the fourth quarter.

For the nine months ended June 30, net sales amounted to \$62,036,000 compared with \$74,177,000 during the same period last year. Net profit after taxes amounted to \$1,588,000 compared with \$2,417,000 as of June 30, 1954.

RCA-Whirlpool --

(Concluded from Page 1, Col. 5) 'Whirlpool' on products of the new company. Commencement of the use of this combined trade-mark will be timed with the introduction of new merchandise lines during 1956.

"Whirlpool believes that a more complete line of major home appliances must be offered to distributors and dealers if its home laundry equipment line is to retain its share of industry sales and continue to grow."

Commenting on the proposed merger, Holl said the new company's line will be sold through distributors. He added: "The white goods line, to be sold under the RCA-Whirlpool label, will be produced in early 1956."

Seeger is completing a \$2.5 million remodeling program at its Evansville, Ind. plant to boost output of compressors.

Announcement of the proposed merger plan prompted Salvatore Giordano, president of Fedders-Quigan Corp., to issue a statement regarding his firm's relations with RCA.

He said the contract under which Fedders makes air conditioners sold under the RCA trade-mark continues to June 30, 1956. He added that Fedders is negotiating with RCA to extend the contract.

Giordano explained that the statement was made "to clarify and misunderstanding which might arise from news reports in connection with the proposed Whirlpool-Seeger merger."

Carley In New Office

DALLAS — W. A. Carley Agency, manufacturers' agent for air conditioning, plumbing, and other supplies, has leased a new office at 2024 Farrington St. in the Trinity Industrial District.

Virginia Refrigeration Men Organize To Combat 'Unfavorable' Legislation

RICHMOND, Va.—A meeting of Virginia refrigeration and air conditioning men, held recently at the John Marshall hotel here, culminated in formation of the Virginia State Refrigeration Trade Association and appointment of a special committee to coordinate activities on a state-wide basis.

Immediate aim of the organization, it was explained, is to rally all refrigeration and air conditioning interests in the state "in order to combat proposed legislation which would, in effect, make the refrigeration and air conditioning contractor subservient to the plumbing and heating interests."

Also, it was said, the proposed bill "would require the refrigeration man to pass an examination and certification by a board as a plumbing or heating and air conditioning contractor or both."

Ultimate aim of the Virginia State Refrigeration Trade Association, however, "will be to

sponsor a refrigeration and air conditioning licensing bill which will, in effect, give the refrigeration contractor the legal right to engage in the business, and not to encroach upon the interests of the plumbing-heating firm," it was stated.

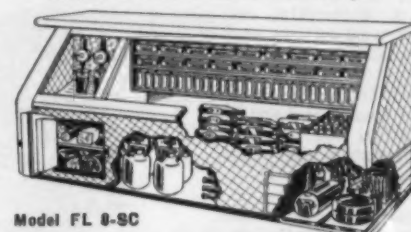
ing firm," it was stated.

Richard H. Catlett of the Catlett-Johnson Corp., Richmond, was acting chairman of the meeting.

Pollock was elected temporary chairman of the new organization. Other temporary officers are John J. Krafft, Krafft-Imlay Co., Inc., Arlington, secretary, and Stanford Bernhard, Robt. M. Dunbille & Bros., Inc., Roanoke, treasurer.

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Model FL 8-SC

Complete carbonated soda system with 2 spigots, 2 or 4 syrup tanks, refrigeration space, makes ice cubes, frosts glasses. Gleaming stainless steel with 2 sliding doors, bottled beverage storage.

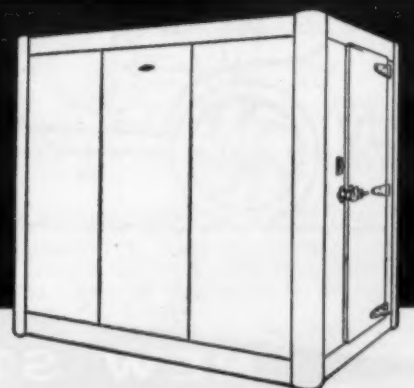
6-8-10 Ft. Long, 27" D, 39" H or made to your measurements.

4-BROS. REFRIGERATION MFG. CO.

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Exclusive Franchise Available to Dealers

designed
to do a
better job



walk-in
REFRIGERATOR with
exclusive
features

You and your customers will like this walk-in refrigerator. Easily erected sectional construction; 7'-8" high with full head room inside; full 5" insulation. Exclusive "Filter-Flo" coil prevents mixed odors, eliminates cold blasts and maintains high humidity. Highest quality at a price you can sell with good profits.

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QT COOLING
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For use with all makes of Water Cooled air conditioners.
Outdoor installation—safe for children or pets.
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Pleasing green FIBERGLASS CABINET AND SUMP PAN. (No paint ever needed).
Clear heart Redwood deck.
WATER TURBINE driven fan—No electrical connection to the QT.

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ASPIR-JET SPRAY NOZZLES RAISE TOWER EFFICIENCY

The swirling, atomizing action of the water as it goes through the Aspir-Jet means more effective heat transfer and higher efficiency from any spray-filled cooling tower. Pressure as low as 1/2 pound gives effective water break-up and distribution. Formed of butyrate plastic, Aspir-Jets will not corrode.



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for all applications

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BURLINGTON ROAD, FULHAM, LONDON, SW6, ENGLAND
Cables: TEMTUR LONDON

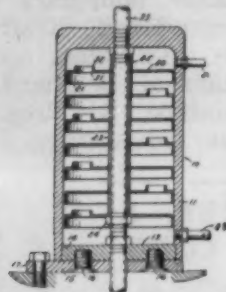
AIR COOLED from 3/4 to 100 H.P.!

UNICON by KRAMER

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Week of May 24

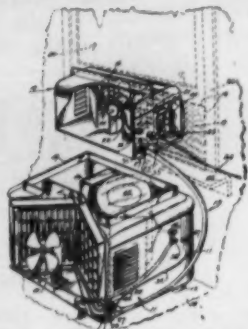
2,708,832. EVAPORATOR ASSEMBLY. Ralph McGregor, Libertyville, Ill., assignor to Motor Products Corp., Detroit, Mich., a corporation of New York. Application Nov. 17, 1952, Serial No. 230,851. 2 Claims. (Cl. 62-126.)



1. An evaporator for a refrigerating system, comprising a vertically extending shell having a wall at one end closing the latter end of the shell, a closure for the opposite end of the shell formed separately from the shell, a plurality of discs of heat conducting material supported within the shell in vertical spaced relationship to each other and to the ends of the shell, said disc having the outer edges engageable with the inner surfaces of the shell and having aligned centrally arranged openings therethrough, a tie member extending vertically through the centrally aligned openings and clamped to the shell, tubular spacers

supported on the tie member between adjacent discs for securing the latter on the tie member in proper vertical spaced relationship, a passage for refrigerant communicating with the space between the end wall aforesaid of the shell and the adjacent disc, a second passage for refrigerant communicating with the space between the closure and adjacent disc, each disc having an opening therethrough for the passage of refrigerant and the openings through adjacent discs being staggered with respect to one another, and each disc having an upstanding flange encircling the opening therethrough.

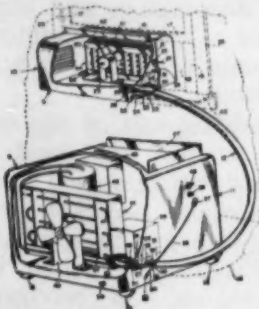
2,708,833. MOBILE AIR CONDITIONING MEANS FOR WINDOW OPENINGS. Joseph G. Nigro, Chicago, Ill. Application Feb. 27, 1953, Serial No. 339,230. 5 Claims. (Cl. 62-129.)



1. Mobile and partly portable air conditioning means, comprising a port-

able condenser unit removably securable in a window opening between the sash frame and the window sill, a mobile compressor unit movably positionable interiorly and adjacent the said window opening, and flexible cable means interconnecting a portion of the said condenser unit lying interiorly of said window opening and said compressor unit.

2,708,835. MOBILE AND PORTABLE AIR CONDITIONER. Joseph G. Nigro, Chicago, Ill. Application Jan. 15, 1954, Serial No. 404,461. 5 Claims. (Cl. 62-140.)



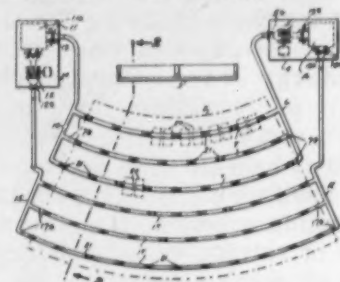
1. In combination with a room air conditioning means, including a condenser unit adapted in its normal operation to be positioned at least partly outside a window of a room to be air conditioned by said means, said means including a motor-compressor unit for a refrigerant, a closed refrigerant system including the compressor of said

unit, a condenser coil forming a part of said condenser unit and arranged outside said room, and an evaporator coil arranged inside said room; a drip pan beneath said evaporator coil to receive condensate water, means to receive water from said drip pan and to discharge it onto said condenser coil, so that evaporation of this water on the outside of said condenser coil will assist in cooling the condenser coil, a drip pan below said condenser coil for water which is not evaporated in a single passage past said condenser coil, and means for conducting water from the second named drip pan to said means to discharge water onto said condenser coil, so that water not evaporated as aforesaid may be recirculated past said condenser coil.

2,708,867. HEATING AND COOLING STRUCTURE FOR AUTOMOBILE DRIVE-IN THEATERS. Emil L. Turner, Jr., Chandler, Ariz. Application Dec. 10, 1951, Serial No. 260,895. 4 Claims. (Cl. 98-2.)

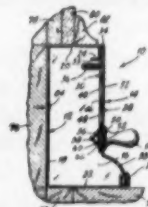
1. In apparatus and structure for heating or cooling automobiles parked in a drive-in moving picture theater by air flowing through underground ducts to tubular standards disposed adjacent parking spaces in the parking area of said theater, structure for conveying air from said standards and distributing it within said automobile comprising a flexible and laterally extensible tube connected at its end to said tubular standard, a rectangular air distribution case having a front, back, sides, top and bottom; a partition

closing the front portion of the case from the rear portion; an electric loud speaker unit in the front portion of the said case arranged to propagate sound waves outward from the front of said case; an extensible electrical transmission cable attached to said



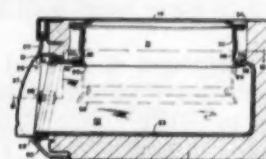
tube, and co-extensive therewith, having its inner end connected electrically to said loud speaker unit; the back of said case being provided with a tube connecting an opening in the upper part of the back of said case with the end of said flexible tube; said case sides having rectangular outlet openings provided with vertically extending closing slats pivoted at each end; and a passageway within the rear portion of said case connecting said opening in the back of said case with said rectangular outlet openings in the sides of said case.

2,708,869. BASEBOARD REGISTER. Robert H. Grossenbacher and Henry E. Grossenbacher, Overland, Mo. Application June 12, 1952, Serial No. 293,172. 3 Claims. (Cl. 98-40.)



1. In a baseboard register construction of the character described, an elongated casing in fluid communication with a warm air duct, and a removable cover assembly for the casing; said assembly comprising: a panel member including a vertical segment reversely bent upon itself at the top to form a rounded edge and terminating in a reversely bent horizontally disposed segment to form a slide-away; an arcuate segment integral with said vertical segment along the bottom thereof; at least one row of spaced elongated slots in said vertical segment; a valve plate including a vertical segment terminating at the top in a horizontal flange segment reciprocally mounted in said slide-away; at least one row of spaced elongated slots in the vertical segment; and a pair of knob elements rigid with the valve plate for reciprocating the latter to selectively effect full or partial registration of said rows of slots.

2,709,122. REFRIGERATION APPARATUS. Guy F. Smith, Mansfield, Ohio, assignor to Westinghouse Electric Corp., East Pittsburgh, Pa., a corporation of Pennsylvania. Application June 11, 1951, Serial No. 231,017. 2 Claims. (Cl. 312-214.)



1. In a refrigerator cabinet structure, the combination of inner and outer shells, said outer shell being exposed to the air ambient said structure, heat insulation between the shells, a casing defining a butter compartment disposed in said heat insulation, said casing having an opening in one wall thereof adjacent said outer shell, and an elastic boot engaging the casing peripherally of said opening and extending to said outer shell.

McClain & Pleasants, Inc. Distributes Norge

CHICAGO—McClain & Pleasants, Inc., Charlotte, N. C., has been appointed distributor for Norge Sales Corp., according to Harold P. Bull, Norge director of distribution.

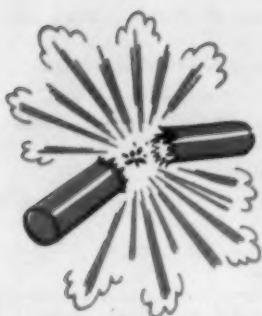
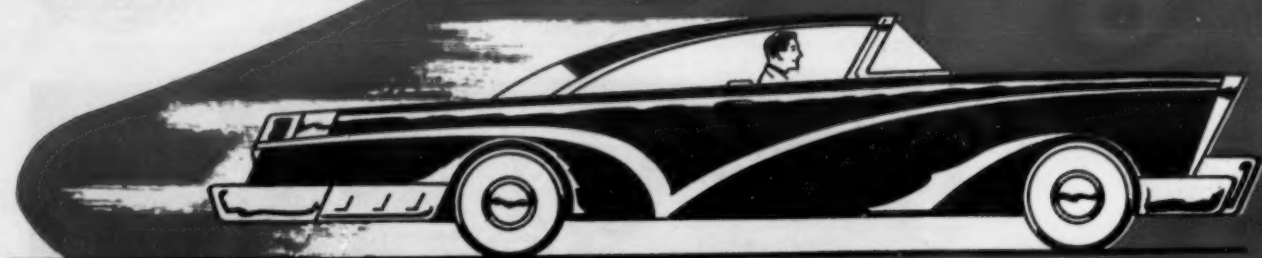
The distributing firm will wholesale the full line of gas and electric Norge home appliances in 28 counties in North Carolina and 16 counties in South Carolina.

Enloe McClain is president and Joe L. Pleasants vice president and merchandising executive of the company. Other executives include Luther A. Abernethy, credit manager, and Dan Carlton, service manager.



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The Fourth
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For more information about products advertised on this page use Information Center, page 18.

Brunner Warranty Program--

(Continued from Page 1)

the customer that the parts he wants will be available when he wants them, Hawk said.

Brunner is now producing semi-hermetics in its new plant here in horsepower ranges from 1/4 through 3. The plant was opened in 1954. In its main Utica plant, Brunner produces open-type units, ranging from 1/4 through 100 hp. Brunner also has a line of packaged air con-

ditioners from 2 through 20 hp. and a line of air compressors from 1/4 through 50 hp.

To the customer, the new warranty plan means that he will get replacement of a defective part as quickly as the serviceman can get to the nearest Brunner wholesaler and back, Hawk declared. It will also save him freight charges between the wholesaler and Brunner.

To the dealer, Hawk added,

the program means he need carry no stock parts, he develops better customer relations, and gets more interested service.

To the wholesaler, it means, besides paid freight both ways and a working profit on replacement transactions:

Elimination of dual stocks of rebuilt compressors for replacement purposes.

Elimination of the need to keep records of warranty units in his territory. Brunner keeps all such records.

More traffic through his place of business.

To the fixture manufacturer using Brunner units, Hawk continued, the plan will mean an alternative to his own warranty program at costs no higher than for any other equipment. He has the added advantage of using the Brunner nationwide whole-

saler team. He need carry no stock of compressor replacement parts or handle any warranty correspondence.

To all, it will mean that the nearest Brunner wholesaler will make the exchange of all parts covered by the warranty and the protection plan regardless of the

(Concluded on next page)

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications \$10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

POSITIONS WANTED

DO YOU need a salesman to cover western Michigan? Background experience as salesman, sales management, field representative for manufacturer of air conditioning refrigeration equipment. Resume of experience upon request. Open for direct selling proposition but prefer dealer-distributor sales development. Your inquiry confidential. BOX A5275, Air Conditioning & Refrigeration News.

SALES ENGINEER with 5 years' experience in sales, engineering, purchasing with nationally-known manufacturer of condensing units. Experience and wide knowledge of truck refrigeration. Interested in sales position with large, medium manufacturer or wholesaler in Southeast or South. College and refrigeration college. Age 35, married. BOX A5291, Air Conditioning & Refrigeration News.

QUALIFIED COMMERCIAL refrigeration and air conditioning serviceman desires position with reliable company. Formerly with a Tyler distributor and now service manager with a Tyler distributor. Ten years' experience and wide experience in installation. Family man, willing to relocate, best of reference and character. BOX A5292, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

SALESMEN TO handle three-state territory in sales of mechanical check-stands and supermarket store fixtures. Write for all particulars. DORAU-OWENS CO., 24400 John R Street, Hazel Park, Michigan.

DO YOU want a future that is secure and loaded with opportunity? We have a position open, right now, that offers all this and more. Some jobber experience and a willingness to grow are the only requirements. Why not write or call today? LEE EQUIPMENT COMPANY, 4721 Joy Road, Detroit 4, Michigan.

MANUFACTURERS' REPRESENTATIVES now covering Southern States, Texas or Midwest, contacting commercial refrigeration firms, to sell fast-growing line of special and standard commercial equipment. Write: PAUL R. STEWART, 1712 John Street, Cincinnati 14, Ohio.

POSITION OPEN for air conditioning and heating salesman by Chrysler Airtemp dealer covering Daytona Beach, Florida, area and vicinity. We have a well-established organization with 24 employees, regularly installing systems of all sizes. We need a competent man who is thoroughly experienced in air conditioning sales and layout. None other than a competent air conditioning salesman will be considered. This is a splendid opportunity under ideal working conditions in a quite mild climate. THEODORE M. WILLIAMS COMPANY, 979 Volusia Ave., Daytona Beach, Florida.

PROJECT ENGINEER—A large, well-known manufacturer of heating and cooling equipment located near Chicago is expanding its engineering staff and facilities, and seeks a responsible project engineer qualified to design residential air conditioning equipment. Our organization knows of this advertisement and your response will be held in strictest confidence. In replying, please include a resume of your background, experience and salary requirements. Reply to BOX A5281, Air Conditioning & Refrigeration News.

FIELD SERVICE engineer, with 10 years' or more commercial refrigeration experience (preferably food store), is desired by manufacturer recognized as among the leaders in food store refrigeration equipment field. Must be free to travel and willing to move, if necessary, at our expense. Promotions create need for additional men in eastern and southeastern states. Position provides salary, expenses, car allowance, vacation with pay, insurance, hospitalization. Here's a real opportunity for a man 30 to 45 years. Replies held strictly confidential. Send recent photo with full particulars of experience to BOX A5283, Air Conditioning & Refrigeration News.

WANTED: DEVELOPMENT engineer, automotive air conditioning firm, located in Southwest. Expanding into other fields. Require young, energetic, forward-thinking development engineers with B.S. degree or equivalent, preferably with experience in design, load calculations, systems, surface design, etc. State age, marital status, education, experience, include photograph. Send letter to BOX A5286, Air Conditioning & Refrigeration News.

AIR CONDITIONING engineer college graduate with manufacturing or contractor experience in selecting equipment, design, and application to maintain technical contact with salesmen. Midwest manufacturer of compressors, package chillers, etc. to 60 tons. Salary open. Write letter giving full information as to education, experience, salary, etc. to BOX A5288, Air Conditioning & Refrigeration News.

MIDWEST MANUFACTURER has an opening for an application specialist to report to sales manager of cooling equipment. Should have actual experience in application of comfort cooling equipment. Some travel. Will assist distributors and dealers in establishing application practices. Assist in preparing installation manuals and conduct training programs. Our employees know of this ad. Send complete resume of education, experience, salary, etc. BOX A5289, Air Conditioning & Refrigeration News.

MANUFACTURERS' AGENTS throughout the country. One of the leading manufacturers of liquid receivers is ready to launch a revolutionary refrigeration system "drier." Unique opportunity to get in on the ground floor. Must be familiar with refrigeration parts wholesalers and original equipment manufacturers. Please write in detail giving territory covered and lines carried. BOX A5293, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

WANTED: YOUR surplus, outdated or obsolete refrigeration items—expansion & water & shutoff valves, controls, relays, dehydrators, units, tubing, fittings, etc. All sales on a cash close-out basis, large or small quantity. Write or call: COMMERCIAL CONTROLS SERVICE CO., 257 East 3rd Street, N. Y. 9, N. Y. ORegon 3-7210.

WATER COOLERS—We will purchase new surplus water coolers, tanks, bubbler valves, glass fillers, faucets and parts for water coolers. Write giving complete description, quantity and prices. COOL-RITE COOLER CO., 2747 Bienville Ave., New Orleans, La.

WANTED: ANY amount Frigidaire relays, YG2 type. Will pay 25¢ each. Ship in and will mail check. UNITED CONTROLS, 342 West 70th Street, New York 23, N. Y.

WE ARE interested in purchasing any Ajax Electric Ice-man—new, used or parts. Contact BOX A5284, Air Conditioning & Refrigeration News.

EQUIPMENT FOR SALE

BRAND NEW 1955 models completely automatic 110V. or 220V. Kesco condensate water disposal units for air conditioners at your jobbers. Famous flood-proof, trade accepted, low priced K-40 12 ft. head; K-55 17 ft. pump; available in deluxe heavy hot-dipped

galvanized tank 9 1/2" high, 14" wide, 7" thick. Write for your nearest jobber; literature; KESCO PRODUCTS CORP., Box 84, Springfield Gardens 13, New York.

SOUTHWESTERN DISTRIBUTORS and dealers. Get complete information on Mannhardt quality built ice storage bins. Stock units available for Instant Ice, York, Carrier and Scotsman machines from 200# to 4000# capacity. Special built bins on order. Prompt delivery. S. A. MAVERICK, JR., Manufacturers' Representative, P. O. Box 4042, Austin, Texas.

REFRIGERATION VALUES: Attention servicemen; send for our catalog of refrigeration parts; savings up to 50%. WALTER W. STARR REFRIGERATION SUPPLIES, 2833 Lincoln Ave., Chicago 13, Illinois.

ANOTHER TRACO scoop! Nationally-known water pumps, 1/4 HP \$39.75, 1/2 \$42.75, 3/4 \$45.00, 1 \$52.75, 1 1/2 \$59.75. Top performance, brand new, original cartons. Send for Traco's Savings Book. Greatest values in refrigeration and air conditioning. TRACO INDUSTRIAL CORPORATION, 461 West 126th Street, New York 27, University 5-7700.

1 1/2-HP HERMETIC compressors: 100 well-known brand air conditioning type hermetic compressors, 1 1/2 HP, 230/60/1 for Freon 12 complete with relays and capacitors. New, packed four to each original crate, at less than original manufacturer's cost. BOX A5294, Air Conditioning & Refrigeration News.

BUSINESS OPPORTUNITIES

MAJOR APPLIANCE sales and service business. Established 1930. Located in Delaware. Very good service contacts. Excellent opportunity for one or two appliance men. Furniture, fixtures, stock, inventory and shop equipment. Priced to sell. Owner has other interests. BOX A5295, Air Conditioning & Refrigeration News.

AIR CONDITIONING engineer with twenty years' experience will invest plus services in going refrigeration and air conditioning service, sales and service, or rebuilding company in New Jersey. Please describe area covered, give financial data, and list franchises, contracts, equipment and real estate in first letter. BOX A5296, Air Conditioning & Refrigeration News.

MISCELLANEOUS

INVENTOR HAS new type low side oil filter which is trouble free, easy to make, easy to install, should be on every installation large or small. Inventor wants a manufacturer to make and sell or buy said filter. Please contact: EDWARD B. ANDERSON, 763 Edgewood St., Baltimore 29, Md.

General Services Administration, Region IV, 50 Seventh St., N.E., Atlanta, Georgia


NEW DRINKING WATER COOLER, Jacksonville, Fla., P.O.; West Bay Station.—Job—IFB CR4-1012—Bid opening 10 Aug. 55.
AIR CONDITIONING REPAIRS, Nashville, Tenn., Federal Office Building.—Job—IFB CR4-1006—Bid opening 12 Aug. 55.
AIR CONDITIONING REPAIRS, Macon, Ga. Post Office and Court House.—Job—IFB CR4-1008—Bid opening 12 Aug. 55.

General Services Administration, Region 5, 575 U. S. Courthouse, 219 S. Clark St., Chicago, Illinois
REFRIGERATORS, fed. spec. AA-R-211c and Amendment 1.—2 ea.—IFB DCH-33311-A—Bid opening 29 Jul. 55.
FREEZER, 20 cu. ft.—1 ea.—IFB DCH-83422—Bid opening 2 Aug. 55.
REMOVING CONGRESS STREET CEILING for U. S. Post Office, Chicago, Ill.—Job—IFB C&R 654—Bid opening 29 Jul. 55.
General Services Administration, Business Service Center, Region 3, 7th and D Sts., S.W., Washington 25, D. C.
REFRIGERATION UNIT.—1 ea.—IFB 4N-50706-R—Bid opening 8 Aug. 55.

CONTRACTS AWARDED THROUGH JULY 18, 1955

District Public Works Officer & Officer in Charge of Construction, U. S. Naval Base, Charleston, S. C.
Cold storage building at U. S. Marine Corps Recruit Depot, Parris Island, S. C. (IFB NOY-55615).—Job, \$487,343.—Byck-Worrell Constr. Co., Inc., 318 East Bay St., Savannah, Ga.
Office of the District Engineer, Corps of Engineers, Galveston District, P. O. Box 1229, Galveston, Texas
Modification & Air Conditioning Bldg. 4011, San Antonio General Depot, Tex. (Alternates—Total Items 2 thru 10) (ENG-76).—Job, \$410,544.—D. J. Rheiner Const. Co., San Antonio, Tex.
San Francisco District, Corps of Engineers, U. S. Army, 180 New Montgomery St., San Francisco 5, California
Air Conditioning Bldg. 49, Benicia Arsenal, Benicia, Calif. (IFB ENG-04-203-55-18).—Job, \$103,450.—Valley Sheet Metal Co., 1271 Evans Ave., San Francisco, Calif.
Construction of Cold Storage and Meat Cutting Bldg. Stead Air Force Base, near Reno, Nev. (IFB ENG 4237).—Job, \$98,734.—E. W. Markham, 1330 G St., St. Marysville, Calif.
Quartermaster Purchasing Division, Columbia General Depot, Columbus 15, Ohio
Spare Parts for Refrigeration. (IFB DA33-031-QM-19161).—Various Quantities, \$35,469.—U. S. Thermo Control Co., 44 S. 12th St., Minneapolis, Minn.
Chicago Procurement Office, Corps of Engineers, U. S. Army, 226 W. Jackson Blvd., Chicago 6, Illinois
Refrigeration and electrical equip. w/charges for supervisory services. (IFB F-573-Q).—1 ea., \$62,691.—Carrier Corp., 385 Madison Ave., New York City, N. Y.
Detroit Arsenal, Ordnance Corps, 28251 Van Dyke Ave., Center Line, Michigan
Dehumidified hutment, indoor, all metal type or controlled atmosphere storage. (IFB-11).—Job, \$31,925.—C. J. Glasgow Co., 14020 Oakland Ave., Detroit 3, Mich.
Chicago Quartermaster Depot, U. S. Army, 1819 W. Pershing Road, Chicago 9, Illinois
Case, Display, Frozen Food. (IFB 55-518).—44 ea., \$43,208.—Federal Refrigerator Mfg. Co., 550 Elizabeth St., P. O. Box 558, Waukesha, Wis.
Corps of Engineers, U. S. Army, Office of the District Engineer, Tullahoma District, P. O. Box 2091, Tullahoma, Tennessee
Refrigerators, 65 cu. ft., 320 cu. ft., and 845 cu. ft. (IFB 55-475).—Total 70, \$105,260.—The Warren Co., Inc., 905 Memorial Drive, S.E., Atlanta 1, Ga.
Navy Purchasing Office, Washington, D. C., 4th & Independence Ave., S.W., Washington, D. C.
Refrigerators, electric, self contained. (N600s-y-39746) (IFB-600-1342-55).—212 ea.—Ranges, electric, domestic, type I.—115 ea.—Specs AA-R-211C with modifications. W-R-101.—\$39,257.09.—Westinghouse Electric Corp., 1625 K St., N.W., Washington, D. C.
Procurement Division, Directorate of Procurement and Production, Norton Air Force Base, San Bernardino, California
Cooling towers for industrial machinery, Bldgs. 638, 747 South, 747 North, 701, 763, and 820. (IFB 04-607-55-144).—Job, \$37,400.—E. Willardson, Inc., 2880 Rowena Ave., Los Angeles 39, Calif.
Sacramento Air Material Area, McClellan Air Force Base, McClellan, Calif.
Install cooling towers in bldg. 331. (IFB P/R No. 39708 & 39709).—Job, \$27,033.—Howard S. Markwart, 4801 24th St., Rd., Sacramento, Calif.
Corps of Engineers, U. S. Army, Office of the District Engineer, Sacramento District, 1209 8th St., Sacramento, Calif.
Construction of Cold Storage Warehouse, Paving and Utilities at Mather Air Force Base, Calif.—Contract No. DA-04-167-ENG-1387. (IFB ENG-04-167-55-49).—Job, \$204,402.—M & K Corporation, 405 Montgomery St., San Francisco, Calif.

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Over 10,000 (count 'em!) items, shown and priced:

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134 Lafayette Street, New York 13, N. Y.
122 Parkhouse Street, Dallas 7, Texas

Brunner Warranty Program --

(Concluded from preceding page)
origin of the sale of the unit in question.

A user of Brunner-Metic compressors can obtain the five-year protection plan by three different methods. First, the dealer from whom he buys the unit may buy the plan on his behalf. Or, the manufacturer in whose equipment the Brunner-Metic is used may furnish him with a policy.

Customer Can Buy Policy Himself

Finally, if neither the dealer or manufacturer provides him with a policy, the user can purchase it himself within 30 days after the installation. For this purpose, an application form is wired to each Brunner-Metic. The customer sends the form and his remittance directly to Brunner. On receipt of the application and remittance, Brunner will mail the customer a copy of his policy and a Brunner Five-Year Defective Parts Coupon.

How Exchange Plan Will Work

This is how the new warranty exchange plan will work, as outlined by Brunner.

Under the one-year standard warranty, three different procedures apply.

On electrical accessories, including the relay, overload protector, capacitors, and fan motors, the wholesaler will exchange these without charge. He will accumulate the defective parts turned in to him.

Every 90 days, the Brunner district representative will examine them, arrange for their disposition, and credit the wholesaler for their full purchase price plus freight.

On other condensing unit parts, including parts of the motor compressor, the wholesaler will charge the customer's representative (sales, contracting, or servicing dealer) for the part at wholesaler's discount off Brunner's list price plus freight.

The wholesaler will return the defective part to Brunner, freight prepaid. If it is found defective under terms of the warranty, Brunner will credit the wholesaler with the wholesaler's full purchase price of the part, plus freight. In turn, the wholesaler will credit the customer's representative with the purchase price of the part, plus freight.

Wholesaler Gets Price Plus Freight

On exchanges of either parts or accessories, the wholesaler is not compensated for the exchange. But he gets his full purchase price plus freight.

On the motor compressor itself, the wholesaler will charge the customer's representative the Brunner exchange sales price plus freight both ways from Gainesville to the wholesaler's city.

The wholesaler will return to Brunner, freight prepaid, the defective motor compressor. If it is found defective under the terms of the warranty, Brunner will credit the wholesaler with his full purchase price of the motor compressor, plus freight

at the lowest tariff rate between the two cities, plus a handling credit. It was emphasized that on the compressors, Brunner would pay only the lowest tariff rate.

Again, in turn, the wholesaler would credit the customer's representative with the exchange sales price of the motor compressor plus the freight charged.

Under the five-year protection plan, which applies only to the motor compressor and its internal parts, the procedure is the same except for one detail.

The extra detail is that, in addition to the return material form that accompanies all parts returned to the factory, the customer will send back his copy of the Five Year Defective Parts Claim Coupon.

Brunner will record on the coupon its findings and that a

credit has been issued for the cost of the replacement part or that the part was not found defective under the terms of the warranty.

The coupon is returned directly to the customer, giving him full knowledge of the company's findings.

If the part is found defective, Brunner will credit the wholesaler with his full purchase price of the part plus freight, plus a "fair and equitable compensation" directly comparable to normal margins on the sale of parts and supplies.

Then the wholesaler will credit the customer's representative with the purchase price of the part, plus freight.

On motor compressors, the wholesaler receives his full purchase price for the motor compressor, plus the actual freight charge (rather than lowest tariff), plus a sum equal to the wholesaler's profit margin on exchange sales price, for handling.

For Brunner-Metic compressors covered by the fixture manufacturer's warranty, exchanges and compensation will be handled in the same way as described above.

Units Under Warranty Of Fixture Firm

However, for defective parts exchanged under the five-year protection plan, the customer or the customer's representative will present the wholesaler's invoice for charges to the manufacturer for payment or reimbursement.

The same exchange procedure will also apply to motor compressors and parts out of warranty. In this case, the customer's representative buys the part at the exchange price plus freight. The wholesaler's compensation is the difference between his cost and the exchange sales price.

Brunner noted that its five-

year protection policy does not include or cover labor charges.

Labor for service, the handling and purchasing of the required part, the obtaining of the warranty credit to the customer, etc., is a matter to be handled between the customer and his service representative.

Food Chain Operators To Meet Oct. 30-Nov. 2

WASHINGTON, D. C. — The 22nd annual meeting of the National Association of Food Chains will be held Oct. 30-Nov. 2 at the Palmer House in Chicago.

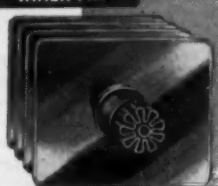
The program will deal with technological and social changes in the future and their possible effect on supermarkets. Irradiation of food, source prepackaging of produce, and frozen pre-fabricated meats are some of the topics.

The Complete Line... BUSH

... A BONUS TO REFRIGERATION CONTRACTORS

There's a BUSH unit for every commercial refrigeration need — high or low temperature. To service engineers and contractors this means a bonus in time saved "shopping" for the right unit... installation time saved by knowing the line... engineering costs shaved with the help of BUSH Sales Engineers who are always available to assist in selection and application. There's a "peace-of-mind" bonus, also, in knowing that latest design, reliably-rated BUSH units cut down costly trouble calls.

INNER-FIN

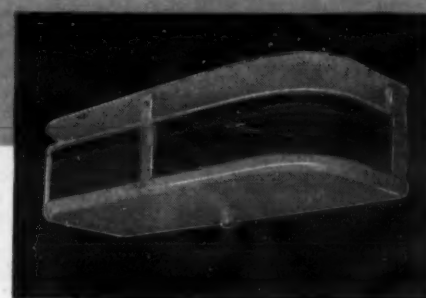


BY BUSH



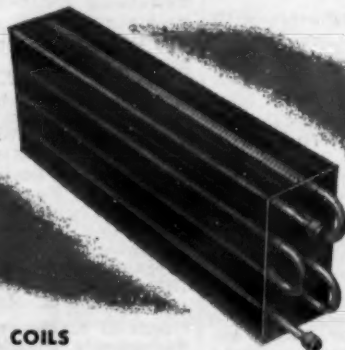
BUSH 'JF' JET-FLO COOLER

Stainless steel casing. Completely non-ferrous construction throughout. Patented Inner-Fin coil design. Arranged for "suck-through" operation, but supplied with extra fan for "blow-through" arrangement. Units can be wall or ceiling mounted.



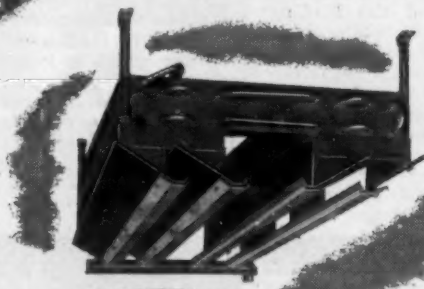
BUSH 'WJ' UNIT COOLERS

For space-saving installation at juncture of wall and ceiling. Air circulation through 180° radius with no blast.



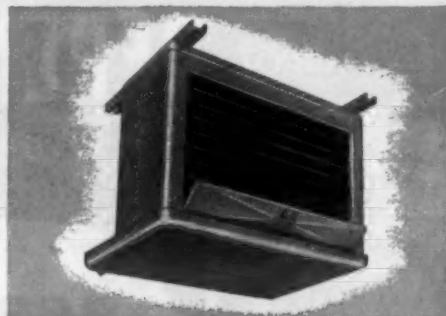
FIN COILS

Wide range of types and sizes to meet diverse requirements. Aluminum fins on copper tubing. Copper Inner-Fins.



BUSH PLASTI-COOLERS

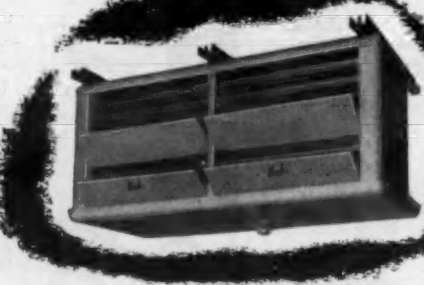
Jet black plastic baffles eliminate sweating. Baffles pitched for gentle, gravity-type air flow that provides maximum circulation without blast.



'HG' HOT GAS DEFROST UNITS

'ED' ELECTRIC DEFROST UNITS

Inner-Fin coil construction permits rapid defrosting from the inside. No reboilers, complicated piping, other "extras".



'UC' STANDARD UNIT COOLERS

Ten models to meet any application need. Aluminum fins on copper tubing. Slotted hangers for quick installation.



'GD' GLYCOL DEFROST UNITS

Product coolers featuring Inner-Fin coils that permit entirely separate defrosting circuit. Available in floor or ceiling models. Assembled defrost circuit kit supplied.

BUSH

BUSH MANUFACTURING COMPANY • West Hartford 10, Conn.

RIVERSIDE • CALIFORNIA